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Precision SHOOTING

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CHARLES WHIPPLE SETS NEW SMALLBORE AGGREGATE RECORD

See "Tournament Circuit"—page 3

a magazine for Shooters by Shooters

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EFFICIENT RIFLE RESTING SYSTEM

Perhaps some of you have been wondering just what the so-called "return-to-battery" rifle rests are like, that have been causing so much discussion among bench rest shooters, as I have been. I finally saw three variations of these rests at the bench rest match in Plainfield, N. H., on July 20th and assisted in a demonstration with one of them.

Actually, this is a system of resting rather than any hard and fast rest design. This "system" simply employs gravity to return the rifle uniformly to a constant position on the rests when pushed forward to firing position after recoiling from a shot. This is accomplished by tilting the rests (front rest, at least) in the plane at right angles to the length of the rifle so that when the rifle is pushed forward it will move to the low side of the resting surface and come to rest uniformly against a stop provided. The system does require a rifle with a flat bottom forearm (such as have been in common use for several years on bench rest rifles) or an attachment to the forearm which will provide a flat surface to contact the resting surface. The mechanically adjustable butt rests, which have been in common use for several years, may be adapted to this system or new ones may be made.

No two of the three rests employing this system at Plainfield were exactly the same. "Ernest Stuhlschuter" used a common type of front rest with a flat, small tray in which a small, hard-packed sandbag may be used. He had smoothed the tray bottom to make it as friction free as practical and merely tilted the rest by use of the regular adjusting screws of the pedestal base so that the rifle would slide by gravity to rest against the low side-plate of the tray when pushed forward. His rifle buttstock has a normal rounded bottom surface and he had made a cradle for his adjustable rear rest with a "U" shaped notch, loosely enough fitted so that the butt would come to a uniform rest in the bottom of the "U." His rear rest was apparently an experimental one with a rather complicated adjustment system. With these rests, his fine bench rest rifle and his match ammo, we, together, demonstrated the "return-to-battery" reliability of the outfit, under perfect shooting conditions early Saturday evening. He loaded the rifle and returned it to firing position for each shot, after first aligning the rifle on the target, and I touched only the set trigger to discharge the rifle for each shot. Neither of us looked through the scope sight after the rifle was aligned for the first shot and thus fired a five-shot string at 100 yards. The resulting group measured .253 inch with normal shape for such a small group. I have on file both this target and one fired in a similar demonstration earlier at Staunton, Va. and earlier reported.

Bill Cotter had rests designed for this 'gravity system" of resting. Bill's rifle has a flat bottom on buttstock, parallel to the flat bottom on forearm. In use, both front and rear rests were tilted in the same plane. Both rests had a round rod resting surface with a stop on the low side for the rifle forearm and buttstock to come to rest against. The rear rest had simple, fast adjustments. Bill has used his rests extensviely and has complete confidence in them. He used them throughout the matches.

Both the "Stuhlschuter" and Cotter rests are illustrated with the rifles in position on them.

Al Glendening brought a set of rests for this system of resting that he had just acquired and gave them an initial try Saturday afternoon. His front rest was similar in design to Cotter's. His rather simple, fast adjusting rear rest had a cradle with a shallow, rather wide angle "V" notch in which the rounded bottom of his buttstock could come to a uniform resting point by gravity when the rifle was pushed forward to firing position. Al, very sensibly, did not use an unfamiliar resting system in the matches.

Ernest Stuhlschuter started one 200 yard match with his formed cradle, adjustable rear rest but after two shots changed to his hard sandbag at rear to finish that match. He used the hard sandbag at rear with the tilted front rest for the balance of his match shooting.

There was a varying wind of considerable velocity throughout the match firing on Sunday, with light varying from light clouds to bright sun.

Of the 18 shooters completing the two range aggregate (five 5-shot matches at each range), Cotter ranked 8th with a .5962 m.o.a. aggregate. Of 19 completing the 100 yd. agg., he ranked 10th with .512". Of 19 completing the 200 yd. agg. he was 5th with .681 m.o.a. Ernest Stuhlschuter ranked 11th in the two-range agg. with .6475 m.o.a., and Glendening ranked 13th with .6491—both are normally consistent high ranking shooters at this match and they may have been subject to some type of "rests-phobia" at this shoot.

Incidentally, Ralph Filter from the Catskill section of New York State, shooting in his first registered bench rest competition, won the two-range aggregate with a .5357 m.o.a. Amory Skerry and Frank Dawley of Rhode Island and Dr. Alonzo Garcelon from Maine, all in their second or third year of competitive rest shooting, took the next three ranking spots.

My own personal impressions, after seeing this simple resting system and finding out the results obtained by users of it in this shoot and others, are somewhat as follows:

I am most amazed that this so simple resting system has not been in use in competitive bench rest shooting for several years past—I rather kick myself that even I didn't think of it and start using some adaptation of it long ago.

So far as competitive bench rest shooting is concerned, it has always been the goal of those participating in it to use the best equipment to be obtained and the most efficient resting system for the shooter concerned for successful competition in the race to win matches and aggregates—the perfectly normal goal for any type of competition. Uniformity in supporting and managing the rifle, either on rests in bench rest shooting or in the hands within prescribed conditions for other types of shooting, is most important in obtaining the best results. If this so simple system for uniform support and management of the rifle by aid of gravity may help some shooters obtain more accurate results in unrestricted bench rest rifle competition, I, personally, can see no valid objection to its use.

It is quite apparent that any reliable system of returning the rifle to consistent point of aim could be a real aid for shooting small groups in conditions of no wind and a heavy boiling mirage. It seems equally apparent that any such reliable system of resting the rifle, readily available to all, could best put the novice shooter nearly on par with the long experienced shooter under such shooting conditions, which do pose a most perplexing problem for many shooters.

The only advantage that I can imagine for any so-called "return-to-battery" system of resting when shooting in difficult wind conditions is that it requires a minimum of time to re-position the rifle after a shot and would thus permit more time for observing "conditions" to get the shots off to best advantage, within the match time limits—and that could also aid in more nearly putting the less experienced shooter on par with the more experienced shooter.

Any means of reliably returning the rifle to or very near a constant point of aim after firing would aid in reducing cross-fires, which have been a vexing problem in bench rest competitions. This would be a measure of protection to other shooters.

It is my considered **opinion** that any **natural** means of "leveling" competitive conditions will aid in providing 'equality of opportunity" in competitio.n If such a leveling of competitive conditions leads to a higher plane of accuracy, I think it should be welcomed as an advanced step rather than damned as something to avoid.

Entirely aside from competitive bench rest rifle shooting, it seems to me

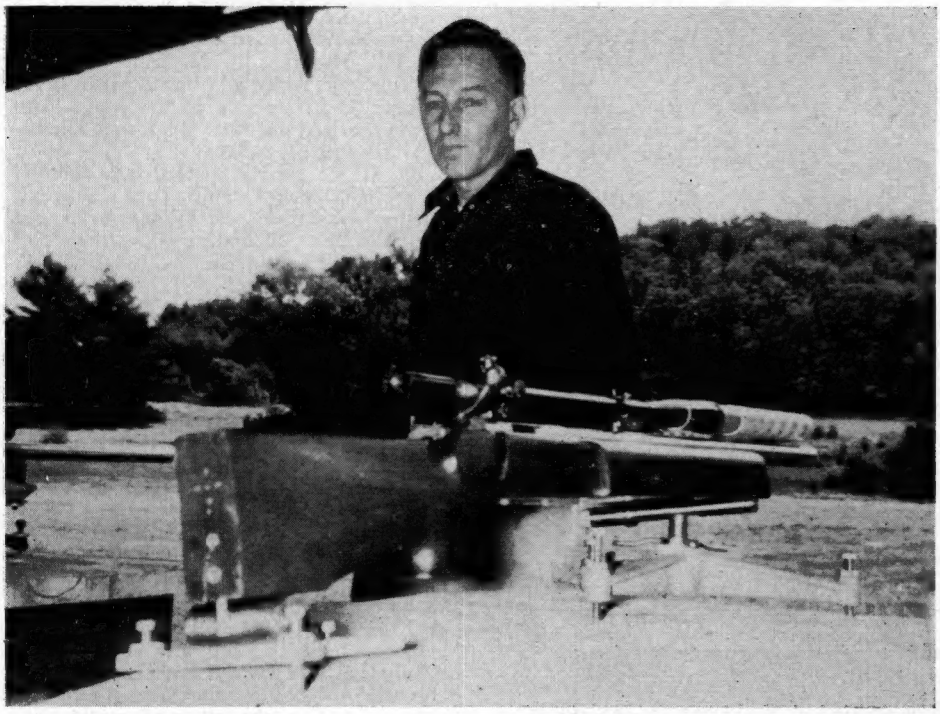
HENRY W. BUTTERFIELD

Henry W. Butterfield, President of Precision Shooting Inc., died very suddenly from a heart attack on Saturday afternoon, July 26, 1958. After mowing his lawn Saturday afternoon, Mr. Butterfield had come into the house to watch the baseball game on TV when he was stricken.

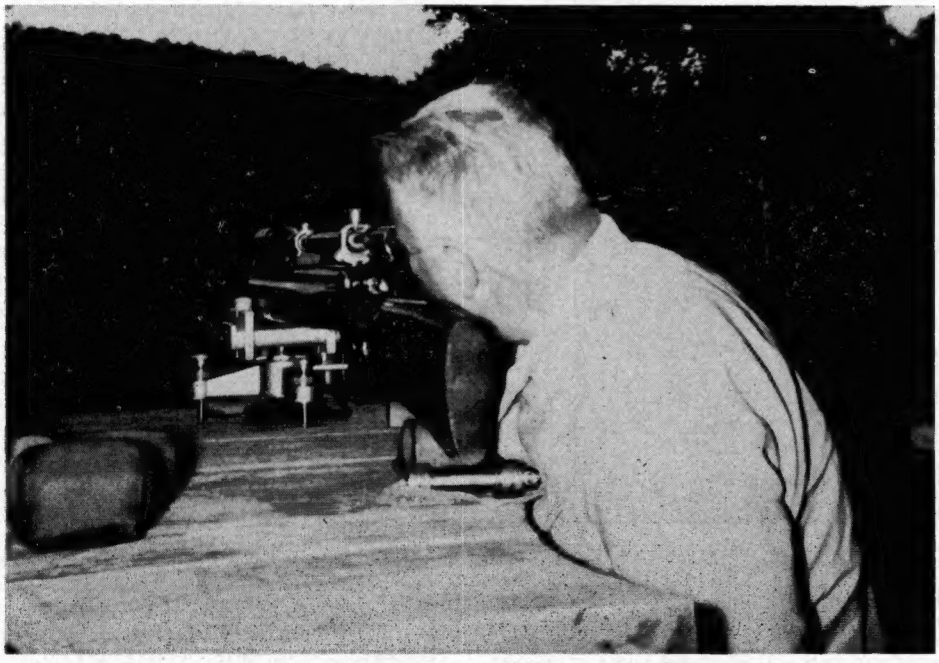
Henry Butterfield was one of the organizers of Precision Shooting Inc. and had been its president and business manager since the organization. He was also president, manager, and a principal stockowner in the printing establishment Cowles Press Inc. He was chairman of the School Board in his home town, Waterford, Vt., and an active member of local civic organizations. He is survived by his wife and three daughters.

HENRY FORSTER

Henry Forster, who a short time ago sold his interest in Forster Brothers and moved to Hemet, California, died at his home on July 22, 1958. Henry had been seriously ill but had seemed to be on the long road to recovery and had made some tentative plans for producing the fine bench rest rifle action which he had designed.



Bill Cotter's Rests



Ernest Stuhlschuter's Rests

tem will provide a simple, inexpensive that this "gravity positioning" rest sysmay be of real value to anyone in testing and reliable method of rifle resting which rifles for pure accuracy. It would seem that fairly simple, inexpensive cradles could be devised to be firmly attached to a sporting or target rfile with rounded or oval forearm for temporary provision of a flat contact surface to ride on the rest A butt rest with adjustments in the vertical and horizontal planes with a wide angle "V" or "U" notched cradle would be simple and quite inexpensive to make. I will be surprised indeed if some enterprising person or firm does not start making this type of rests for sale in the very near future.

For some test (and competitive) rest shooters this "gravity positioning" method may prove to not be any great aid to shooting—for themselves. But to others it may prove to be a real aid. As with anything else, trying it yourself is the only sure means of finding out if it helps **YOU.** Happily for many, such a trial may be made, at little expense, by making some improvised adaptations to rests they may have, by methods which should be obvious to the individual.

PHT

THE TOURNAMENT CIRCUIT

WHIPPLE BREAKS SMALLBORE AGGREGATE RECORD

At the ZEPPELIN OPEN Smallbore Rifle Tournament, sponsored by the Zeppelin Rifle Club at Akron, Ohio, July 12-13, Charles C. Whipple of Somerset, Pa., fired a 3199-269 aggregate score to beat the existing record for that course by 14 X's and to become the first person to win the championship Litchfield Trophy twice in the thirteen times it has been competed for—he won the trophy in 1954 and has been runner-up in other years. In addition he collected the special $500 prize which had been posted for breaking this record on this range. He won five of the eight fired matches, all with 400 scores. On the cover Whipple shows the one 9 he fired during the two days—in the metallic sight Dewar match.

Robert K. Moore of Claysville, Pa., the defending champ, beat Whipple in the any sights aggregate 1600-136 to 1600-134 and was runner-up in the championship aggregate with 3195-251. Moore won the any sight Dewar with 400-38. Lawrence A. Wilkens of Seville, Ohio had 3195-238. J. Kenneth Johnson, 1956 National Champ from Washington, Pa., was fourth with 3194-259. The 1955 National Champ and former Litchfield Trophy winner, Viola Pollum of Brookville, Pa., was fifth with 3194-253 and won the metallic Dewar match with 400-32.

Completing the Top Ten were: Dean DeLaMater, Parkersburg, W. Va. 3194-233; Wm. E. Summers, Akron, 3194-232; George Handel, Pittsburgh, Pa. 3193-245; Laurence F. Moore, Aberdeen, Md. 3192-227; and Samuel Day, Good Hope, Ohio, 3191-231. Theodore Charlton, Munhall, Pa., won the 50 meter any sights match with a 400-38 score.

Eighty competitors from seven states fired in the matches.

NORTHEASTERN SMALLBORE RIFLE REGIONAL

With 180 competing in the Northeastern Smallbore Regional on Blue Trail Range in Connecticut, July 12-13, the tussle for Regional Championship honors became from the start a hotly contested one between Ransford Triggs of Madison, N. J. and Serge M. Fedoroff of Hoboken, N. J., with Triggs coming from behind in the second day to win the title by a 23X margin.

Fedoroff won the ranking in the first match, 50 meter iron, over John Coar and Loren Samsel of Pa. on tied scores of 400-28, and Triggs fourth with 399-30. Triggs won the second match, 50 yd. iron, with 400-36 over Walter Tomsen, Flushing, N. Y. and Fedoroff, both with 400-34. In the 100 yd. iron Triggs gained more X's but no points with his second place 399-30 over Fedoroff's 399-24—

(Continued on Page Four)

DAMARISCOTTA LABOR DAY RE-ENTRY SHOOT

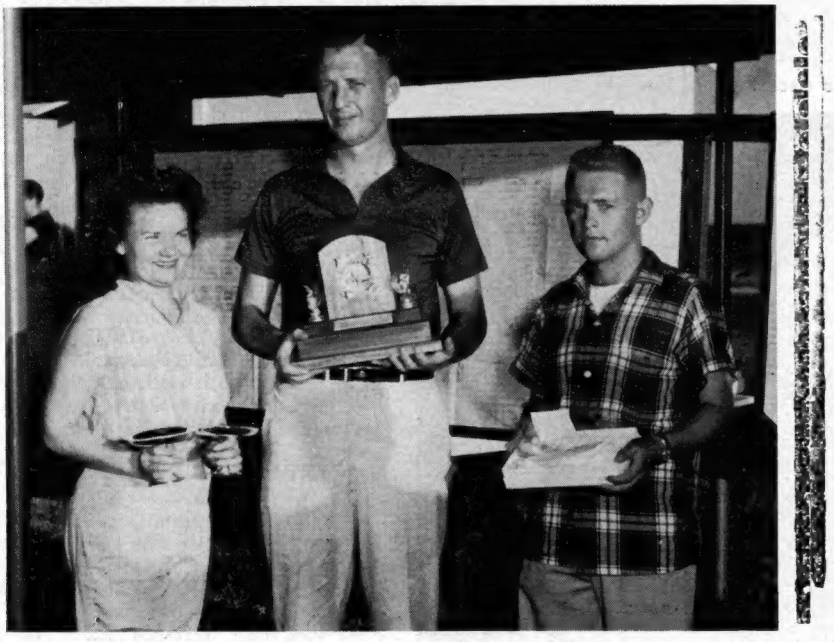
DAMARISCOTTA, ME. — AUG. 31 - SEPT. 1

Two days for renewing acquaintances, eating lobster and shooting for a Rem. 244 and 29 other valuable prizes totalling over $700.00.
22 cal. rimfire 100 yd. any sight match with 4 classes plus 100 yd. 22 cal. offhand match and 200 yd. any rifle any sight match. All re-entry.

For a program around August 1st write

M. L. TILTON, Sec.
LINCOLN COUNTY RIFLE CLUB
JEFFERSON, MAINE

1958 Idaho State Smallbore Rifle Champions. Left to right: Creed Page, open champ; Henry Benson, Idaho resident champ; Jo Ann Sanborn, Junior champ; Mrs. Dorothy Sanborn, Ladies' champ.



Southwest Regional Smallbore Rifle Champs. Left to right: Mrs. R. L. Sargent, high lady; Sam Ward, regional champion; J. T. Bertva, high service man.

The Tournament Circuit

(Continued from Page Three)

Samsel won with 400-23. Federoff won the iron sight Dewar with 399-25 while Triggs dropped another point but gained another X with his fifth place 398-26. Fedoroff finished the first day with 1598-111 to Triggs' 1596-122 and Samsel's 1596-97.

Sunday morning, with scope sights, Walt Tomsen, John Crowley and James Kreder (an Expert from Scarsdale, N. Y.) ranked in that order on tied 400 37x scores in the 50 meter event—Triggs fourth with 400-36 and Fedoroff an also-ran with 400-34. At 50 yds. C. R. Forsyth, Jr. of No. Arlington, N. J. won with 400-39x to top the 40 possibles fired—Triggs was second with 400-38 and Fedoroff had 400-35. At 100 yds. Triggs won with 400-30 over Dr. Irwin Tekulsky of NYC and Winchester-Western's Tiny Helwig, each with 400-28. Fedoroff's 398-24 lost him his point lead and more X's. Arthur Cook won the any sight Dewar with 400-32, an X up on Triggs, Joe Phillips of Syracuse, N. Y., R. D. Lizotte, Saco, Maine, and Fred Avallone, Jackson Hts., N. Y., John Crowley and Loren Samsel, all with 400-31x scores. Fedoroff couldn't gain but fired a 400-30 to hold his runner-up ranking.

For the any sight agg. it was Triggs 1600-135, Tomsen 1598-129, Fedoroff 1598-123 and Forsyth, Jr. 1598-123.

Trgigs scored 3196-257 in the grand aggregate, Fedoroff 3196-234, Samsel 3193-215, Tomsen 3189 248, and Crowley 3189-227. Joe Phillips was high Expert with 3179-210; A. W. Welsh, Berlin, Conn., high Sharpshooter with 3174; R. B. Thompson, Fort Lee, N. J. high Marksman with 3133. Barbara Norton, Bridgeport, Conn. was high woman; Barbara Winton, Stratford, Conn., high collegiate; and G. R. Forsyth, Jr. was high junior with 3186.

New York shooters Peter Tierney and Austin Huffman won the metallic sights doubles with 796-43. Maine shooters R. D. Lizotte and C. L. Boyington won the any sights doubles (on 300 meter target reduced for 100 yds.) with 783-37.

SOUTHWESTERN REGIONAL SMALLBORE TOURNAMENT

Competing against the largest field for a Southwestern Regional in many years, 83, Texan Sam Ward didn't win a fired match in the two days but nevertheless won the metallic sight aggregate with 1595-101 over F. M. Gibson's 1592-100; the any sight aggregate with 1598-107 over J. L. Greer's 1596 to put him well out ahead in the Regional Championship with 3193-208.

F. M. Gibson, Houston, was runner-up with 3188-214 and Inez Sargent, Houston, was third and Women's Champ with 3186-210. Rounding out the Top Ten were: Earlton Smith 3184-188; W. H. Womack 3183-214; J. A. Maroney 3183-197; J. T. Bertva, high service shooter, 3181-182; J. A. Badeaux 3180-202; R. J. Gorey 3180-191; and J. A. Davis 3180-182. Glenn Womack was Junior Champ.

The tournament was fired on the 72 point Addicks smallbore range of the Bayou Rifles, Inc. with that club and the Sheffield Rifle and Pistol Club as hosts.

IDAHO STATE SMALLBORE CHAMPIONSHIP

High and tricky winds rising from the Snake River canyon, 480 feet below the Twin Falls Rifle & Pistol Club range backstop, held the metallic sight scores on July 5th to a record low for this tournament. A 399-21x by Mrs. Dorothy Sanborn to win the 50 yard match was the best individual score of the day. Creed Page, Grand Junction, Colo., won the metallic aggregate with 1589-96, followed by Karl Kenyon, Ely, Nevada with 1586-90, and Robert Boydston, Billings, Montana with 1582-90. Page and Mrs. Tressa Dodge of Boise, Idaho won the 100 meters doubles match with the only possible for the day.

Conditions were much more stable Sunday for the any sight matches and all matches were won with 400 possible scores. Henry Benson, Salmon, Idaho, won the any sights aggregate with 1598-129, followed by Harvey Mutch, Enterprise, Oregon with 1597-135 and Boydston with 1597-121. Bill Hankins, Cedar Rapids, Iowa, fired 1596-112 for fourth.

Page won the open State Championship with 3184-213 and Kenyon was runner-up with 3180-198, Boydston third with 3179-211. Benson took the resident champ title with 3173-209. Mrs. Dorothy Sanborn of Twin Falls took the Ladies' title and Expert award with 3169 and her daughter, Jo Ann, took the Junior and Marksman awards with 3157. George Stevens, Missoula, Montana, was high Sharpshooter with 3126.

Page fired a heavy barrel B. S. A. as did Boydston and Sanborn. Benson fired a Win. 52 with Johnson barrel and Kenyon trigger and bedder in the metallic matches, and a Rem. 37 with Douglas barrel and Kenyon trigger and bedder in the any sight matches. Mrs. Sanborn shot a Win. 52B with Swem bedder and heavy barrel, while Jo Ann used a Rem. 37 with Douglas barrel and Kenyon bedder and trigger. Kenyon shot a rifle of his own design with a Douglas barrel. This single shot action for left handed shooters caused much comment on the line. Only seven true factory rifles were counted on the line. Western Mark III was the favorite ammunition.

NORTH DAKOTA STATE HI-POWER

Jasper O. Kleinjan of Bentley, N. D., firing a model 70 match rifle in .30-06 cal., is 1958 N. D. State Hi-Power Champ. He edged out the defending champ, Oliver Nygaard of Grand Forks by a score of 387-40V to 387-27V for the course of 20 standing at 200 yds., 20 rapid

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REPORT ON BAHLER DIE SHOP BULLET SWAGE

Sooner or later, the serious minded bench rest, varmint or pistol shooter will run up against the problem of obtaining the best possible accuracy from his equipment. Hand loading is of course the answer. Accuracy can usually be improved by paying attention to numerous items such as uniform weight and diameter of bullets, uniform powder weight, and proper seating depth. After all this loving care, the shooter will usually find that he has improved accuracy somewhat but not to the extent he had hoped.

The bench rest shooter learned several years ago that the bullet was the most important component affecting accuracy. After leaving the barrel, the bullet is on its own and if it is unstable, all the care used in the assembly of components is so much labor lost. Bullets may look, weigh, and measure alike but still not shoot. This may be due to a number of things such as lead cores loose in jackets, bases not square, or bullets in the same box made at different times from different dies as well as other items going into the manufacture of bullets.

The bench rest shooter is a one man testing laboratory who cannot be kidded about quality. A number of years ago this group of shooters found that the hand swaged hollow point bullet gave superior accuracy, and today this type of bullet is almost universally used at bench matches.

There are several important advantages in swaging your own bullets: (a) The low pressure used to form soft swaged open point bullets does not deform the bullet. (b) You can specify a die of correct size to fit your particular barrel. (c) Since your press is hand operated, you can feel any irregularity in forming pressure and discard that bullet. (d) One of the most important advantages is that your bullets all come from the same die using the same batch of jackets, lead, etc. This is more important than mere uniform weight and diameter. (e) While accuracy is the most important item, there is a substantial savings in the cost of bullets as a bonus for your efforts.

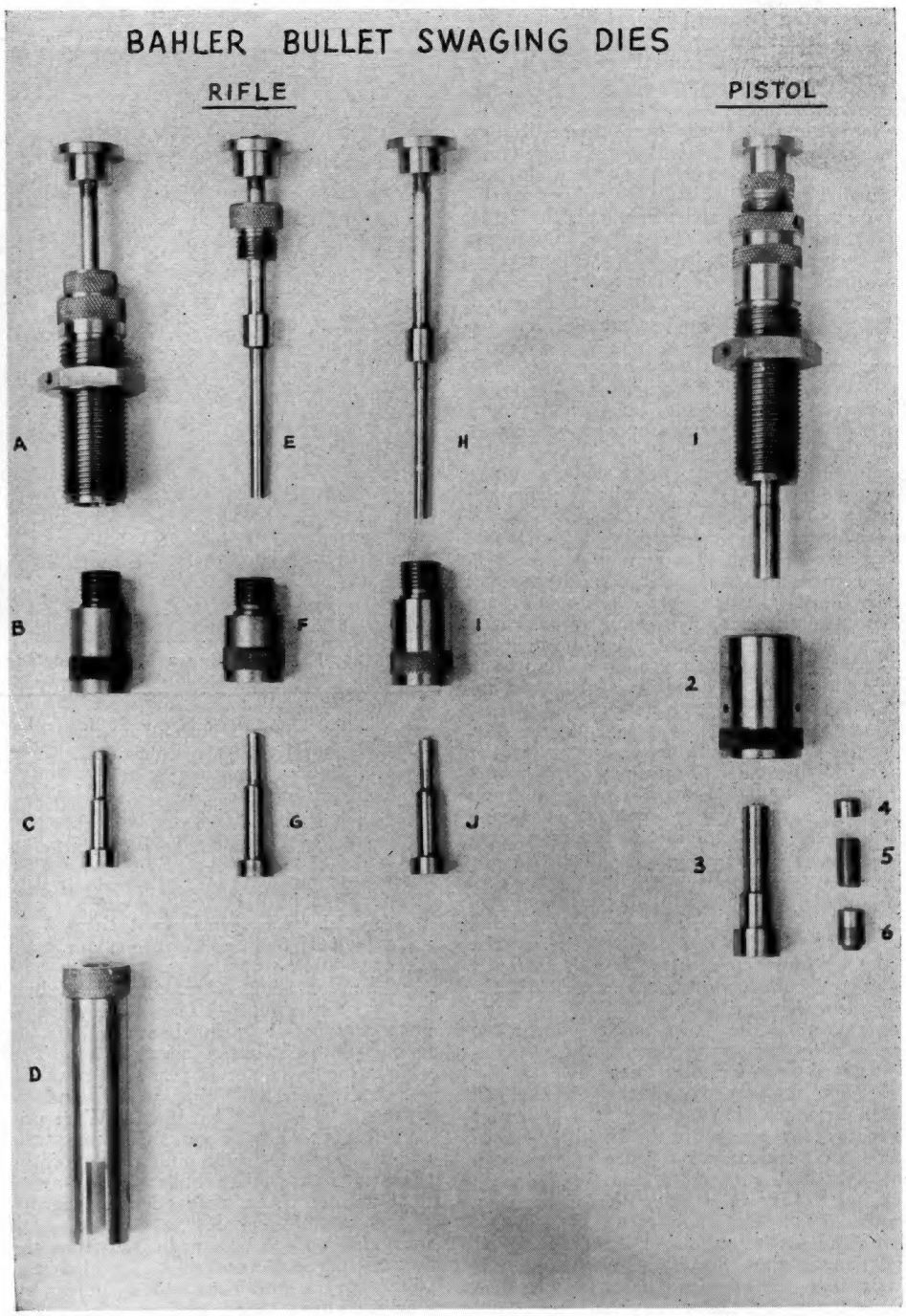
Bench Rest Bullet Swaging Dies

Last spring I needed another set of Precision Dies in .224 Cal. for early delivery so, I contacted the Bahler Die Shop, Coos Bay, Oregon, who have been making bullet dies for the varmint and pistol shooter. In our correspondence, Mr. Bahler stated he had made a comparatively few sets of dies for bench shooters and at that time had not seriously considered putting on the market a set of .224 Cal. rifle dies employing the expanding-up principle. In this construction, each operation increases the diameter of the bullet a few tenths. The purpose, of course, is to assure that lead cores adhere to the copper jacket under expanding pressure as a loose core is fatal to accuracy.

As a result of our correspondence, Mr. Bahler agreed to make a set of expanding-up dies in .2240 Cal. with a 6 Cal. ogive for Sierra Hulls. The core seater to be about .2238" diameter to allow about two tenths for expanding-up.

Just five weeks after placing my order, the mail man dropped them at my door and I spent that evening setting up the dies in an RCBS Model B press and made a few bullets before bed time.

The dies are of one piece construction in which all forming is done completely inside the die cavity. The workmanship and finish are excellent.



Dies are made of Timken Graph-Mo steel reamed then lapped to specified size. Punches are ground and lapped. The dies screw into a die body or holder. By purchasing extra dies and punches, bullets for various calibers can be made. In ordering my set, I obtained three bodies and in this way keep the core extruder, core seater, and final bullet swage set up and adjusted in separate bodies for quick use.

I understand the delivery of custom built E. U. dies is currently running about two months while the other types of swaging dies can be obtained in a shorter time.

In addition to the above, I found the price to be right.

The following photograph shows the consrtuction of the expanding-up rifle dies:

A—Die Body (ejector for bullet swage shown assembled)
B—Bullet Swage
C—Lower Punch for Bullet Swage
D—Ram for Press (RCBS ram shown)
E—E. U. Core Seating Ejector
F—E. U. Core Seating Die
G—E. U. Core Seating Punch
H—Core Forming Ejector
I—Core Forming Squirt Die
J—Lower Punch for Squirt Die

The dies are made to accommodate various jackets on the market. Since most makes of jackets employ different inside dimensions, it is necessary to specify the jacket to be used when ordering dies. I understand dies are made in .224-6 mm-.25-.270-7 mm and .30 Caliber all with 6 Cal. ogive. The .30 Cal. is also available in 4 Cal. ogive.

Since the proof of any bullet is in the results obtained, I proceeded to make about 500 in 53 grain weight.

These were tested in three different bench rifles all in .222 Cal. having reinforced actions fitted with Douglas premium Stainless barrels. Testing was done at 200 yards under favorable conditions using adjustable rest front and rear with 24 power Unertl Scope. For 13 five shot groups the average was .62". Max. was .85" and Min. was .45". Extended firing at 100 and 200 yards since that time have

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Report On Bahler Die Shop Bullet Swage

(Continued from Page Five)

confirmed the original results. No unaccountable fliers were encountered.

Wanted to see how these bullets measured on an optical measuring device so had them measured on a tool room Shadowgraph. This is an expensive measuring instrument in which the bullet was magnified 20 times for measuring purposes. The bullet looked bigger than a quart of Old Grandad making it easy to measure. It was .2240 full length of the shank which is just what I had ordered. The base was also square with the body which is very important.

Next, I had the guy with the white jacket mount the bullet on a Profilometer which electrically measures any irregularities in the surface. The finish smoothness averaged five micro inches or five millionths of an inch over the bullet shank.

Since obtaining my dies, a bench rest friend has obtained a similar set in .2240 Cal. with an extra set of 6mm inserts. His .22 Cal. bullets are performing as well as mine but he has not as yet made any in 6mm Cal. due to lack of jackets.

After making thousands of bullets in my older dies, I have found that an automatic ejector frame is quite desirable to speed up the operations. Since Mr. Bahler had no automatic ejector at the time of purchase, I made one. In the future I understand Bahler plans on making this available since most bench resters use an automatic ejector as it certainly speeds things up.

Have my RCBS Model B tool mounted horizontally on the work bench. In bullet making, I place an inclined cigar box under the die and when the core or bullet is ejected, it falls into the box and rolls down to one end. All the operator has to do is feed the die and operation of the press handle automatically takes care of ejection.

Standard Set of Bullet Dies

The maker advised they have been making a set of dies for the varmint shooter for some time. In this set of dies an accurately cut core is swaged directly in the jacket at the time of core seating rather than being performed in a squirt die.

The set is precision made and is similar to the deluxe set illustrated except that the core extruder (squirt die) is not supplied as a regular item and does not employ the E. U. principle. These dies are popular with the varmint shooter since they also produce an accurate soft swaged bullet having an open point which expands well on varmint size game.

The cost of the standard set is very modest which fact appeals to the shooter who uses only a few hundred bullets a year. Such a set soon pays for itself by providing more bullets at lower cost.

Like the Bench set of dies the Standard set can be easily converted from one caliber to another by purchasing the necessary inserts and punches.

Pistol Bullet Dies

This same company has for some time been making dies for swaging pistol bullets using lead wire or soft cast bullets. A short copper jacket is attached in the swaging die.

Since my dies for .22 Cal. bench rest bullets proved so successful, I have since obtained a set of their pistol bullet swaging dies in 38 Cal. for the Keith and wad cutter type bullets. Such bullets fitted with a short jacket require no lubrication.

These dies show the same quality workmanship as the rifle dies and turn out a truly uniform bullet.

Kent Bellah holding a S & W .44 Magnum on a rest suitable for a velocity test with the Hollywood Chronograph, turned to show in the picture.

The pistol dies are illustrated:

1. Die body with ejector
2. Swaging die
3. Lower Punch
4. Gilding metal cup or jacket
5. Slug cut from lead wire ready to swage into jacket.
6. Final bullet

A lead wire cutter (not shown) is made in dual form with cutters for both 38 and 44 Cal. slugs.

The operation of making pistol bullets is quite simple. The lead wire is cut a couple of grains heavier than the desired bullet using a core cutter. The gilding metal jacket is placed over one end of the core and the jacket end is started into the die by hand. With one stroke of the handle on the press, the jacket is seated firmly on the end of the bullet and the entire bullet is expanded to fit the die. Any excess lead is extruded through bleed holes in the die. The completed bullet is then ejected from the die in perfect condition for loading. There are no mis-runs, blow holes, or poorly formed bases, and you just skip th whole lubricating and sizing operation.

Dies are available in .357-.358-.429-.452 and .454" Diameters. Lower punches are supplied to produce solid or hollow points in the Keith type bullet or with the wad cutter point. Bullets from .38 to .45 Cal. can be made by obtaining proper swages and punches.

I note from various articles in P. S. and other shooting magazines that swaged pistol bullets are rapidly becoming more popular due to accuracy, ease of making, and lack of leading. They are almost a necessity in some of the souped up magnum loads.

The interest in swaged pistol bullets is no doubt due to three things: (a) higher velocity loads with increased power (b) increased accuracy due to a more uniform bullet and (c) swaging dispenses with all the fuss, mess, and heat of casting bullets.

After using the swaging dies, I, for one, am putting the old casting and lubricating equipment on the shelf and there it will stay.

Taking a leaf from the bench rest shooters book, the pistol shooters are also finding that perfectly formed bullets are equally important to them. Competition is getting so stiff in all branches of the shooting game that the best possible bullet is required to keep your name in the winning column. In fact, all details must be carefully considered.

Have hand swaged thousands of rifle bullets during my 30 or more years of testing off the bench and have never used a more accurate type of bullet. Swaged pistol bullets are comparatively new to me, but I am already convinced of their accuracy. Tournament shooters will reach the same conclusion, I am sure, when they give them a trial.

Those who have not tried the swaging method will find it interesting, I can assure you. When you watch those jewels drop from the dies, you will be proud of your efforts.

Some may wonder about the time required to swage bullets. I find an average speed of about 100 finished bullets per hour is about par. Once in a while, your mind will wander from the job at hand, and about that time you pinch your finger between the lower punch and the die. That stops the day dreaming and after a little cussing you get started again.

This little story is old stuff to the bench shooter, but might be of interest to one considering the swaging of bullets for the first time.

W. C. Davidson

U. S. TEAMS WIN

In its first European match, in Germany, the U. S. International Teams won the slow fire, the silhouette rapid fire and full bore pistol matches. The smallbore rifle team won the three position match but lost the English match to the German team by a four point margin. Austria and Venezuela also competed.

From Germany the U. S. Teams go to Sweden for pistol matches at Goteburg and rifle matches at Stockholm.

The armed services shooters are participating in open rifle and pistol matches all over the country, and with a brand of shooting that is going to keep civilian shooters right up on their toes to offer competition—a healthy situation for the shooting game.

HOLLYWOOD CHRONOGRAPH

By Kent Bellah

The photo shows the Hollywood Chronograph, a small portable unit that is a much improved version of the old Owen. The old Owen was rather difficult to use and the 180 volts of power made it a bit of a hazard in case of a shock. The Hollywood is completely safe with a 22½ volt "B" battery, a single flashlight cell and a 6 volt hot shot or car battery. Battery drain is slight. Another good feature is the printed metallic tape on clear 35mm movie film. Some type of rest is recommended to keep the two tapes aligned with the bore. The old foil tape had to be trimmed to about ⅛" and was difficult to align or hit.

This unit weighs about 5½ pounds and warms up in about three minutes. Velocity readings are the average of about 10 rounds of precision loaded ammunition. The chronograph starts operation when the first tape, placed about 3 feet from the muzzle, is broken. It stops when the second tape is hit, and a hit anywhere on the tape will break the printed metallic line, that carries current. The time it requires the bullet to travel between the two tapes is recorded in milliseconds on the dial, and the velocity in feet per second is read from a chart. With the selector set at "zero," the upper scale is calibrated in fps with the tapes spaced exactly 10 feet apart, which registers in the 1,000 to 2,000 fps range. With tapes 20 feet apart for 2,000 to 4,000 fps, the meter reading is doubled. Tapes are spaced 5 feet apart for a velocity below 1,000 fps, or 25 feet for a velocity above 4,000 fps.

One who has never used a chronograph is due a surprise, and it could easily be worth the price of a unit that sells for less than a good production rifle. Different brands of .22 R. F. fodder may have more spread than you think, and average figures may not agree with published ballistics. The velocity spread will be even greater with different makes and lots of commercial center fire ammo, especially with calibers like the .357 Magnum, .22 Hornet and .220 Swift, while .222 fodder may run more uniform.

Some of your handloads may give considerably more or less velocity than you imagine. You'll find that you can hold a quite uniform velocity with precision handloads that give fine accuracy, using identical components and loading technique. Inaccurate loads may show considerable velocity spread, or if you change one component in an accurate load. Primers of various makes may give a larger velocity spread, but they are more apt to have a larger pressure variation than velocity, as some makes produce more heat while others produce more gas. The only function of a primer is to ignite the powder with heat, and the less gas produced, the better. However, under ignition will show up in lower velocity, and as slow ignition is seldom uniform, it may show a larger velocity spread.

Some uniform loads, and particularly hot handgun fodder, may have a fairly large velocity spread and still give good accuracy. For example, an accurate load with the 114 grain Jugular bullet in a .357 is 13.3 grains Unique that averages 1,891 fps, but the velocity has an extreme variation of 106 fps, using Super-X primers.

FURTHER DETAILS OF THE CAPACITOR CHRONOGRAPH

By Daniel L. Whitehead
R. F. D. #2, Export, Pa.

The response to the first article on the Capacitor Chronograph has been most gratifying. From the questions raised, however, it appears that certain points need further clarification. The first trouble arises from a typographical error appearing in equations 2 through 7. (The E (subscript o) is the initial set voltage on the capacitor and is normally set at 1.00 volt. The E (subscript c) is the remaining voltage on the capacitor after the bullet has passed through the screens.) The type setter slipped on the third capital E which has no subscript. This letter should be the lower case e, the base of the natural logarithm. In many math books the Greek lower case Epsilon is used for this term. Since most typewriters do not have the letter Epsilon, lower case e is used since it looks quite a bit like Epsilon. Equation 7, which is the important one, should read: "The ratio of the final capacitor voltage to the initial capacitor voltage is equal to Epsilon raised to the minus "t" divided by R x C power." The solution of this equation is quite easy provided one has the proper Mathematical Tables. The one I use is "Mathematical Tables" by H. B. Dwight page 138 and following.

I feel that a number of people who would like to build the chronograph are holding back because of the difficulty of solving equation 7. To eliminate this difficulty I am taking the liberty of calculating a table that makes it possible to build the chronograph and ignore all of the mathematics in the first article. The following table is based on the product of R x C=0.004000 where R is in ohms and C in farads. This means of course that when buying the resistor and the capacitor that values must be selected to fit this requirement. Other than this there are no restrictions whatever in the use of this table. For meter readings between the values given, simply split the velocity figures in the same proportions. For example, if the meter reads 0.255 which is half way between 0.250 and 0.260, the velocity would be 915 f.p.s. which is half way between the listed values of 902 and 928 f.p.s. for the 5 ft. screen spacing.

For those who would like to build the chronograh with a very minimum of effort I would suggest the following procedure.

1. Write to Cameradio Company, 1121 Penn Avenue, Pittsburgh 22, Pa. and ask for their 58 catalog.

2. Order from Industrial Condenser Corp., Chicago 18, Illinois one 10 microfarad Stabelex D type S, 400 volt capacitor. Ask for actual value of microfarads to be stamped on capacitor can.

3. After the capacitor is received and its microfarads known, select precision non-inductive resistors from the Cameradio Catalog to make the product of R x C=0.004000. For example, suppose C turns out to be 9.70 microfarads. Then R should be 412.3 ohms. For this example then one would need one 400 ohm IRA 2-watt Type DCH resistor as shown on page 89 of the Cameradio Catalog and put in series with it one 7.5 ohm Dalohm Type RS-2 resistor as shown on page 162 of the catalog. The remaining 4.8 ohms will be made up by using 11 ft. of the #36 magnet wire for the second screen. The length of wire used in the first screen is unimportant. Incidentally, these precision resistors list at 71 and 67 cents each. The other parts such as terminals, wire, switches, etc. can be ordered from the same catalog. The magnet wire normally comes with enamel insulation. If bare copper #36 wire can be found it is somewhat more convenient to use than the enamel wire. Stripping the insulation from the ends of #36 wire is somewhat tedious, however, it can be done by putting it over a knife edge, taking care not to cut the wire.

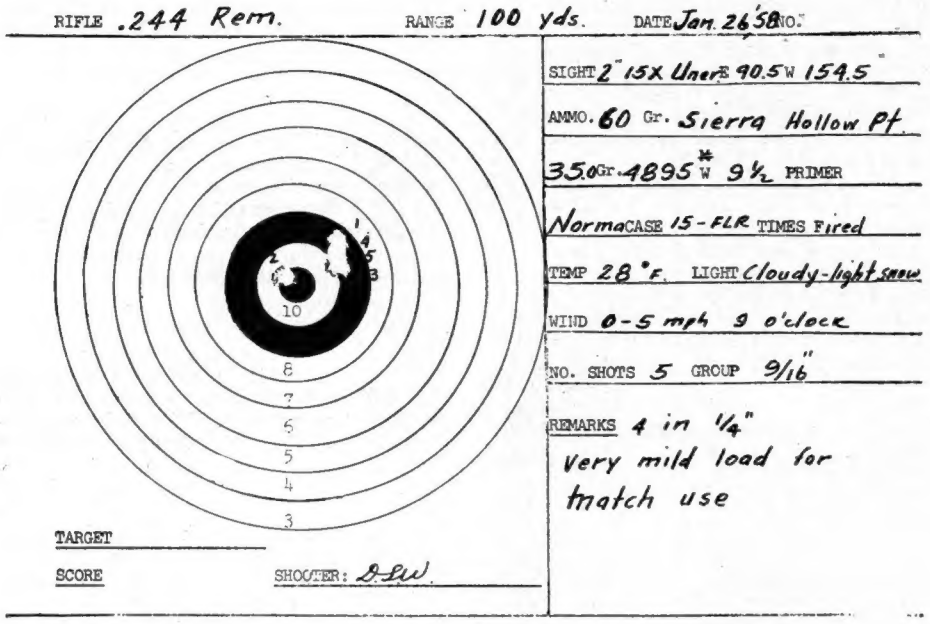
4. The vacuum tube voltmeter (VTVM) completes the outfit. Since this instrument is in common usage by TV and radio repair men it may be possible to borrow one. The only requirement is that the meter have a good 1 or 1.5 volt d.c. scale and have an input impedance of 10 megohms or higher. If the Heathkit VTVM is to be used it can be bought from the Heath Company, Benton Harbor 15, Michigan as model V-7A VTVM kit. A competent electronic technician can easily assemble and calibrate the meter. About six hours total time is par for the course. The Eico or the Sylvania meters can be bought either as kits or fully wired and factory tested. If one is totally unfamiliar with wiring techniques I would recommend the purchase of the completely assembled meter. The RCA type WV-77C or type WV-98A are particularly fine ready to use instruments. Description of these and other suitable meters are shown in the Cameradio catalog.

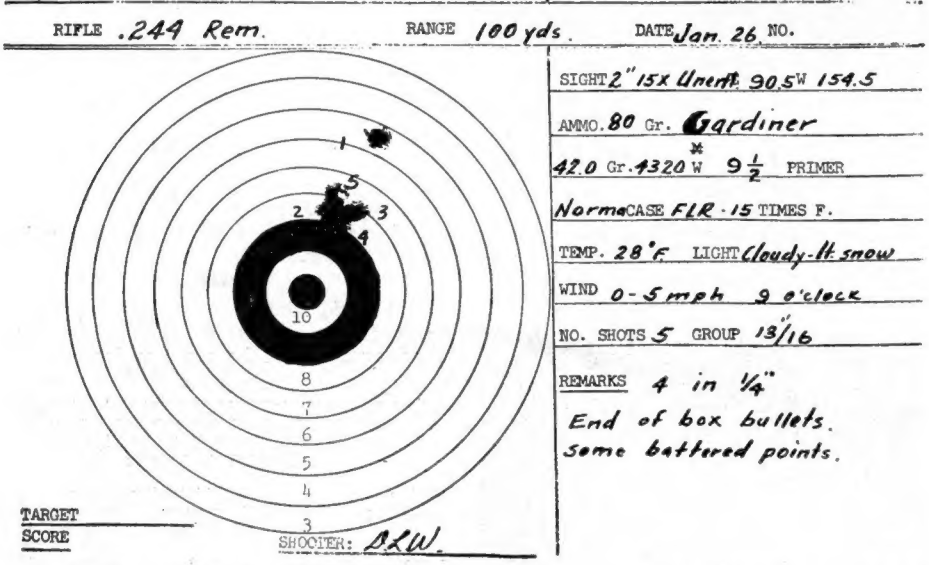
Any further questions or comments from those interested in building the chronograph will be most welcome.

TABLE FOR DETERMINING VELOCITY FROM METER READING FOR R x C EQUALS 0.004000 E (subscript o) EQUALS 1.00 volts

Meter Reading	Velocity (f.p.s.) 5 ft. screen Spacing	10 ft. screen Spacing
0.250	902	1804
0.260	928	1856
0.270	955	1910
0.280	982	1964
0.290	1009	2019
0.300	1038	2076
0.310	1067	2135
0.320	1097	2195
0.330	1127	2255
0.340	1158	2317
0.350	1190	2381
0.360	1223	2447
0.370	1257	2515
0.380	1291	2583
0.390	1327	2654
0.400	1364	2728
0.410	1402	2805
0.420	1442	2884
0.430	1482	2964
0.440	1522	3045
0.450	1564	3129
0.460	1609	3218
0.470	1655	3310
0.480	1703	3406
0.490	1753	3504
0.500	1803	3607
0.510	1857	3715
0.520	1912	3825
0.530	1968	3937
0.540	2027	4055
0.550	2090	4181
0.560	2155	4311
0.570	2224	4447
0.580	2295	4590
0.590	2367	4735
0.600	2446	4892

Temporarily the Precision SHOOTING editor is taking on the work of the President and manager, Henry Butterfield, who died suddenly on July 26th. If this issue is a bit later than usual it will be partially due to the additional work of the editor.


RIFLE .244 Rem. RANGE 100 yds. DATE Jan. 26'58 NO.
SIGHT 2" 15X Unertl 90.5W 154.5
AMMO. 60 Gr. Sierra Hollow Pt.
35.0 Gr. 4895 W 9½ PRIMER
Norma CASE 15-FLR TIMES Fired
TEMP 28°F. LIGHT Cloudy-light snow
WIND 0-5 mph 9 o'clock
NO. SHOTS 5 GROUP 9/16"
REMARKS 4 in 1/4"
very mild load for
match use
TARGET
SCORE
SHOOTER: D.L.W.


RIFLE .244 Rem. RANGE 100 yds. DATE Jan. 26 NO.
SIGHT 2" 15X Unertl 90.5W 154.5
AMMO. 80 Gr. Gardiner
42.0 Gr. 4320 W 9½ PRIMER
Norma CASE FLR-15 TIMES F.
TEMP. 28°F. LIGHT Cloudy-lt snow
WIND 0-5 mph 9 o'clock
NO. SHOTS 5 GROUP 13/16"
REMARKS 4 in 1/4"
End of box bullets.
some battered points.
TARGET
SCORE
SHOOTER: D.L.W.

A TARGET AND RECORD SHEET

Illustrated above is a combination target and data record sheet designed and used by Daniel Whitehead of Export, Pa. for preserving records of his experimental shooting.

Dan uses 8½ X 11 letter-head size sheets and files in a standard size loose leaf binder. He shoots his groups on the target space and thus files the original group with the information pertaining to that particular group.

An adaptation of this system might be to have the data record section of the sheet mimeographed, or duplicated by other methods, and paste groups fired on regular targets in that space which is provided.

Various other adaptations might occur and appeal to other shooters. The important thing for people doing any experimental shooting is to KEEP RECORDS of the shooting in some simple, standardized form for future reference.

For records of my own shooting I have in the past used standard score books, pasting the groups cut from the targets in the space provided for plotting, putting the standard data in the spaces provided and making special notes in spaces provided. For this system I have liked the score books made by Paul Wright of Silver City, New Mexico, best but have also used other standard score books, including those supplied by E. F. (Tod) Sloan, 2502 Goodwin Ave., Redwood City, Calif. However, I think I may turn to some adaptation of Dan Whitehead's system.

Incidentally, Tod Sloan supplies score books for pistol shooters as well as for both big bore and small bore riflemen, all of convenient pocket size and well arranged for entering pertinent data. He also has a little booklet of instructions for trap and skeet shooting—I gotta study that one some.

PHT

LETTERS

Dear Mr. Teachout:

I read with a great deal of interest the fine article on eliminating parallax in telescope sights in the July issue.

May I question the next to last paragraph which states in part "Parallax cannot be removed by adjusting the eyepiece."

Please refer to a ¾ page article which appeared on page 4 in May 1, 1922 issue of ARMS AND THE MAN and written by that eminent authority the late J. W. Fecker, entitled "A Precise Method Of Focusing Telescopic Sights," and from which I quote in part: "The head is quickly moved slightly up or down or from left to right and the image observed carefully to see if the cross wires appear to jump. The objective is now moved in or out very minute distances until a position is found at which the cross hairs jump the least. Now move the **eyepiece** in or out a very little at a time until a position is found where the jumping or parallax entirely disappears. The optical system is now in correct adjustment and the eyepiece and objective should be securely clamped."

He also explains that **after** this fine adjustment is done for one range, all adjustments for other ranges can be done with the **objective alone.**

Also is explained the phenomenon of "Cross Parallax" in which one wire will show parallax and the other will not move at all. This is caused by either astigmatism in the shooter's eye or in the lenses of the scope. If in the eye the shooter should wear proper glasses and if in the lenses the scope should be returned to the maker for correction.

In view of the extreme accuracy of the bench rest rifle it would appear extremely important that the least modicum of parallax existing in the telescope sight should be removed by the individual shooter, unless, of course, the parallax is in the lenses of the telescope.

Sherman W. Church
26 Dry Hill Road
Norwalk, Conn.

BENCH REST MATCHES AT ST. LOUIS

The St. Louis Bench Rest Rifle Club held a very successful monthly match on July 13th. All fifteen benches were continuously occupied from 5 A. M. until dark, and the weather was very good for this notoriously windy range. In the "Hunting Rifle" class, two 3-shot matches at 100 and two at 200 yards, Larry Quenz came in first with .903 M.O.A. shooting a .244 Remington M/722 with home made stock, 75 grain Sierra bullet and 41.5 grains of 4895. Marlin Gray and Ed. Sharpe tied for second place with .937 M.O.A. Gray shot his Rock Chucker with 75 grain Sierra bullet and 42.5 grains of 4895 powder. Sharpe shot a .30-06 Springfield Sporter wtih 110 grain Sierra bullet and 52 grains of 4064 powder.

In the "Light Varmint" class, two 5 shot matches at 100 and two at 200 yards, Marlin Gray was first with .772 M.O.A. shooting a .222 Sako, 50 grain Brown bullet, and 14 grains of Ball C powder. Arthur Freund was second with .983 M. O.A. shooting his .222 Remington M/722 restocked by him, 53 grain Sierra bullet and 24 grains of Ball C powder. Jim Ernst was third with 1.098 M.O.A. shooting a Rimless Wasp 50 grain Holmes bullet, and 26.5 grains of 4895 powder.

In the "Heavy Varmint" class Arthur Freund was first with .624 M.O.A., shooting his .219 Wasp with Schultz and Larsen action stocked by himself and Holmes bullets. Marlin Gray was second with .733 M.O.A. also shooting a .219 Wasp on Mauser action, 52 grain bullets made by Shellert in B & A dies. Sol Gervich was third with .746 M.O.A., and a .22-250 rifle built by Dave Stout of Kirkwood, Mo. He used 53 grain Sierra bullets nad 31 grains of 3031 powder.

Our next match will be on August 17th at which we will welcome all visitors. Our range is most conveniently situated only 30 minutes from downtown St. Louis, in the Missouri River bottom just to the right of the near approach to the St. Charles bridge.—T. W.

Precision SHOOTING advertisers are suppliers of quality shooting equipment and accessories. We believe them to be fully reliable and anxious to serve you. When writing to these people, please mention it is as a result of seeing their ad in Precision SHOOTING.

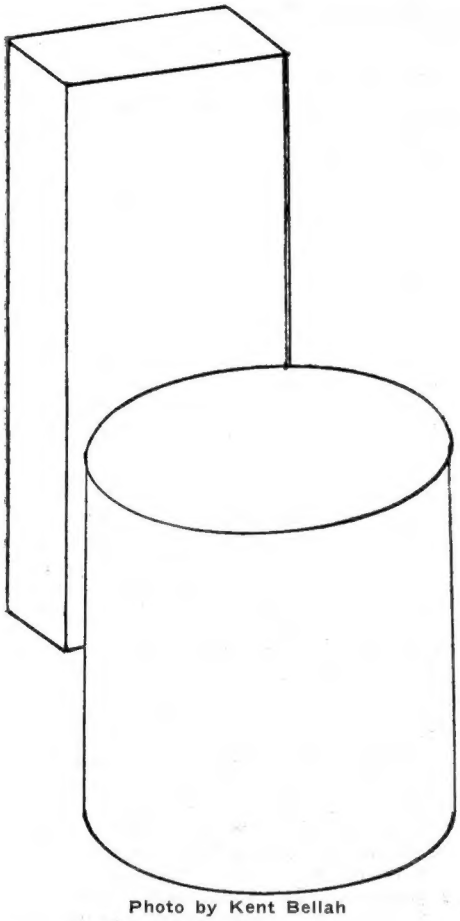


Photo by Kent Bellah

PRIMER CATCHER

By Kent Bellah

The crude drawing shows how I made a primer catcher that works on such tools as the Dunbar, Hollywood Turret, Hollywood Senior, Lyman Tru-Line Jr., C-H Magnum, and others. It's held on the frame by a bar magnet about 2" long. A plastic or aluminum cup is about 1⅛" in diameter and 1" deep. Your photo studio will give you all the 35mm film containers you want, and the thin aluminum can is trimmed with scissors to about 1" deep. The cup is attached to the magnet with metallic solder or Duco cement. The magnet is also handy to hold Allen wrenches for dies, etc.

For the aluminum frame Hollywood Senior, cut a 1"x2½" strip from a tin can, punch a hole in one end, so it can be attached with the shell holder nut, and bent to hold the magnet in place. These catchers do not allow cases to be primed with the sizing operation, but I recommend priming in a separate operation for best results, so the case webb can be inspected after the primer pocket is cleaned.

IT'S A GOOD MITT

A good shooting item, tried and proven in years of use, becomes like an old and dependable friend—we tend to accept and depend on it without consciously thinking just how much we do appreciate it.

Such an item is my shooting mitt made by L. J. Brice of Portland, Oregon, which I have used for all my prone, sitting and kneeling shooting with sling for nearly five years, and which appears to be good for five to ten years more service.

The mitt is a bit on the bulky size, with rather thick but pliable while firm padding on the back of hand and well up the wrist, which makes it mighty comfortable for one whose wrist isn't toughened from constant use of a tight sling. It would not, of course, be a permitted mitt for ISU rules shooting, because of the long, padded gauntlet wrist section.

The leather in my mitt is soft, tough buckskin. The padding must be an extremely good qualtiy of felt for it is still as plump, firm and springy, after five years use, as when it was new. The mitt still **looks** as if it were not over a year old, at most.

The price tag isn't a cheap one—it's a real quality product and when satisfaction with it and its long life is considered, it is an inexpensive item.

PHT

MOVIE FILMS ON RELOADING

Sierra Bullets, Inc., 600 W. Whittier Blvd., Whittier, Calif. have just recently completed a new 16mm movie film on reloading metallic rifle cartridges.

Lyman Gun Sight Corp., Middlefield, Conn. have one 16mm film on reloading metallic cartridges and another on casting lead alloy bullets.

These films from both of these companies are available to dealers and organizations at cost of transportation for free showing.

I have seen both the Lyman films and the processes of reloading and bullet casting are clearly presented, both insturctive and interestnig. Have not personally seen the Sierra film but would expect it to be of at least equal quality and worth.

These films are good ones for club meetings. While on the subject, Winchester-Western and Remington each have 16mm films available to clubs which are both interesting and instructive—more good material for club meetings.

PHT

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"R"

LAKEVILLE ARMS INC.

Lakeville, Conn.

Tell your shooting friends about Precision SHOOTING. If you will send their addresses we will mail them a free sample copy.

The SIERRA BULLETS trio examining their new 16mm sound movie, in color, about reloading entitled "SAVE THE CASE." This new film is available to organizations as well as to gun dealers for presentation to interested groups. Write for details to Sierra Bullets, Inc., 600 W. Whittier Blvd., Whittier, California.

National Bench Rest Shooters Association, Inc.

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Robert W. Hart (Deputy)
300 West Fourth St.
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NORTHWEST REGION
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Seattle 99, Washington

SOUTHWEST REGION
R. G. Rowland
2326 W. 20th St.
Los Angeles 18, Calif.

BENCH REST MATCHES

EASTERN REGION:

SOUTHBORO, MASS.: Oct. 12 (not registered); Southboro Gun Club, J. W. Baldwin, 5 Milk St., Westboro, Mass.

STAUNTON, VIRGINIA: Oct. 4-5; Stonewall Rifle & Pistol Club, J. W. Perry, 409 Du Pont Ave., Staunton, Va.

PLAINFIELD, NEW HAMPSHIRE: Sept. 14; Plainfield Rifle Club, Leslie R. Stone, Sec'y, Plainfield, N. H.

AUGUSTA, OHIO: Aug. 30-31; Reed's Run Rifle Range, Box 66, Augusta, Ohio.

JOHNSTOWN, NEW YORK: Labor Day weekend; Pine Tree Rifle Club; Sid Blake, 105 Dove St., Johnstown, N. Y.

WINDSOR, ILLINOIS: Sept. 7; Windsor Rod & Gun Club, Inc., Windsor, Ill.

GREENUP, ILLINOIS; Sept. 13-14 (Illinois State Championship); Cumberland County Sportsmen's Club, Inc., Herschel E. Owen, Casey, Illinois.

MID-CONTINENT REGION

ST. LOUIS, MISSOURI: Sept. 14; Bench Rest Rifle Club of St. Louis, James R. Ernst, Sec'y, 2230 Ferncliff, Kirkwood 22, Mo.

TULSA, OKLAHOMA: Sept. 6, **Sept. 26-27-2 8 NATIONAL CHAMPIONSHIP SHOOT;** Tulsa Bench Rest Rifle Club, R. G. Berry, Sec'y, Pawnee, Oklahoma.

WICHITA, KANSAS: Aug. 30-31, Oct. 5; Wichita Bench Rest Rifle Club, Dale Apperson, Sec'y, 935 No. Doris, Wichita, Kans.

GULF COAST REGION

CORPUS CHRISTI, TEXAS: Aug. 31; Coleman B. Brown, 602 Sorrell St., Corpus Christi, Texas.

SOUTHWEST REGION

YREKA, CALIFORNIA: Aug. 30-31 (not registered—open and varmint rifles); Yreka Rifle Club, Ray E. Jones, 508 Knapp St., Yreka, Calif.

NBRSA MEMBERS—CONSIDER THIS SOBERLY

(The following letter from member Ed Davis, also Eastern Region Treasurer, to NBRSA President Irv Mohnkern presents a sensible, fair and considerate viewpoint of a present NBRSA problem, and in addition offers constructive suggestions for future NBRSA policy.

Every member is certainly entitled to his own honest opinions and convictions. But each must remember and admit that others may have opposing opinions and convictions which are just as honest and sincere as his own. When each and every member will admit the foregoing, then there is a common-ground for compromise which will allow the NBRSA to go forward as a harmonious unit to a brilliant and worthwhile future in the shooting world.

Ed Davis may not have the only or even best solution, but he certainly has offered a fairminded, considerate viewpoint which should be used as a practical pattern for reaching some solution. P. H. Teachout, Sec'y-Treas.)

I. M. Mohnkern
232 So. Patterson
State College, Pa.
Dear Irv:

Thank you very much for your letter of 6/27/58. I am not unaware of the problems we face in connection with the rest rule and I do want to be of all possible assistance in any way I can.

Personally I am somewhat on the fence as to what would be the smartest thing to do for I have some sympathy for arguments both ways. For example, I have always favored rifles that looked like rifles in the ordinary sense and could be carried in the field or used in battle if necessary. A compromise was made in the case of my own bench gun, mostly because of its weight. On the other hand a scientific sense says that in order to isolate the factors that contribute to accuracy the proper approach should be to eliminate the human element. With these two opposing thoughts coupled with another instinct that tells me to have an appreciation of the other fellow's point of view, an exercise of the Golden Rule if you will, it seems to me that there is certain to be a solution to our problem in compromise.

It appears to me that Mr. Roy E. Meister presented the case for the experimenters very well in his bit in the June '58 issue of Precision SHOOTING. If we admit that he has a point and limit the rest only to the shooters ability to transfer it from bench to bench under our rotation system, we then give that shooter an opportunity to use his ingenuity to fulfil our original purpose. Since his rifle is usually so heavy or of such a configuration that it is out of the question as a field weapon anyway it may as well have an intricate resting device. The only limitation on the resting device being that it must be portable enough to be moved from bench to bench in the standard allotted time. I feel certain that many of our members and potential members agree with this point of view.

There is bound to be some argument that the challenge of the game would soon disappear for the one hole group may not be far off with this type of equipment. If and when that time should come, then a rule change to eliminate the .22 caliber bullet would re-establish the challenge for some years and at the same time tend to promote our original stated purpose.

Now on the other hand we have the fellow who will have no part of such contraptions. I believe we already have a place for this individual in our varmint class shooting. If varmint class rules were extended to say that the rifle must be rested on two sandbags (front bag on a pedestal if you wish), then the opposing faction has a place in the game also. And a useful place, I might add, for unless the knowledge gained by the unlimited class can be applied to a field weapon, we, as an organization, have failed in our obligation to the shooting world. We should try to generate a thought promotion throughout the organization that would elevate the varmint class shooting to a level on a par with the unlimited class shooting. I say this for I have a feeling that some of our members who are interested only in the unlimited class shooting have had a tendency to look down on the varmint class interest.

If the matter of true compromise could be brought home to both groups of interest, then I'm sure we could have a powerful bench shooting organization—and a game that would still be uncluttered with rules and regulations. I would be willing to bet that there would be much interest shown by each group for activity taking place in the other camp.

Best regards,
Ed Davis
Route 1, Box 34
Savona, New York

EASTERN REGION MEMBERS — NOTE!

Members of the Eastern Region NBRSA will elect a director to serve for two years at a meeting in the Pine Tree Rifle Club House in Johnstown, New York on the evening of August 30, 1958 (mid-point of the Johnstown Labor Day matches). At this same meeting the members of the Atlantic Seaboard Division of the Eastern Region NBRSA will elect a deputy director to serve for two years.

Members of the Great Lakes and Mississippi Valley Division of Eastern Region NBRSA will elect a deputy director to serve for two years at a meeting in Augusta, Ohio, during the Reed's Run Rifle Range registered shoot on August 30 and 31, 1958. Exact time and place for this meeting will be posted on the range bulletin board.

Come out and shoot at these matches and elect the men to serve you on the NBRSA Board of Directors for the next two years.

NEW TWO HUNDRED YARD FIVE SHOT AGGREGATE RECORD

After the official records were published in the 1958 rule book, Howard E. King of Richfield Spa, N. Y., realized that his winning aggregate for five 5-shot matches at 200 yards at the Plainfield, N. H. shoot in September 1957 was smaller than the published record for this aggregate course. Mr. King had his targets and, very fortunately, the Plainfield Rifle Club had retained the backing sheets from that shoot and forwarded them to Mr. King. The targets and backers were then submitted for judging as a possible record.

Those targets have now been judged and the official measurement is a .2778 minute of angle aggregate, which is smaller than the .2954 record of Homer L. Culver and is now declared the standing record. Enter this new record in your rule book in the space provided for revisions.

Mr. King shoots a .222 cartridge in a Hart 28½" X 1¼" barrel on a heavy, rigid action which he made himself, and uses a 20X Unertl scope. His load is 23½ grs. Ball powder with Sierra 53 gr. H. P. bullets and Remington primers.

CLEANING

Lately Ernest Stuhlschuter made a short remark about the importance of cleaning the rifle, but did not give his method. Upon the universal adoption of the gilding metal jacket and the noncorrosive primer some thirty years ago I adopted a simple, uniform method of cleaning a high power smokeless rifle that I have adhered to ever since. Since

then I have had no cleaning troubles at all, no rust, no lumpy metal fouling, and I think the accuracy life of my barrels are quite as long as any of like caliber that I know of.

First I push a flannel patch saturated with Hoppe's No. 9 through the bore from the breech and out. Then I run a brass wire bristle brush completely through the bore and out the muzzle, then pull it completely back, twice, without reversing it in the bore. Then again push a Hoppe's saturated patch through the bore and out. Any thought that a brass wire brush is unnecessary or undesirable to loosen fouling will be dispelled by the extremely dirty complexion of this patch. Then I follow by swabbing with two or three dry flannel patches. The last will still be slightly stained with graphite, which can be disregarded. If I am going to shoot the rifle again the same day I leave it in this condition, that is I start shooting with the bore dry and clean. If I am going to shoot the rifle again within a day or a month I wind up by swabbing the bore with a patch saturated with a medium weight gun oil. For many years I used Fiendoil but recently I think the Synthetic **New** Winchester Gun Oil, or the new synthetic Anderol are better oils for this purpose and lock lubrication. If the rifle is going to be laid aside for an extended time, finish by coating the bore liberally with RIG.

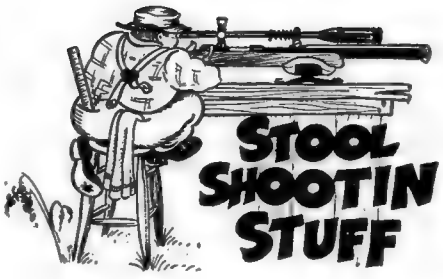
If the bore has been oiled or greased always wipe it dry and clean with two dry patches before firing again. It is quite generally thought that the first shot fired from a clean dry bore, or one slightly oiled, is likely to strike a little out of the group of succeeding shots. It certainly **was** likely to do so as most conclusively shown by my old score books. But lately, in these days of better powders, and bullets and bores much more closely agreeing in diameters, I am not so sure. In the past few years, using good bullets in good rifles, it seems to me that the first shot from a clean cold bore is very likely to be right in the group of the remaining shots, but still in competitions it is always well to fire at least two sighting shots if the conditions of the match permit.

In competitive bench rest shooting I have generally cleaned the bore in this manner after each match, and started each match with the bore clean, cold and dry. This is certainly not detrimental, but I am not convinced this is necessary. What has been the practice of other top notch bench rest shooters in this respect?

The synthetic **New** Winchester Gun Oil and the Anderol oil and grease all have a pour test of under minus 50 degree F., and are the oils that the hunter should use for lubricating his breech mechanism if he is hunting in extremely cold weather. Incidentally, they are the only oils that should be used on the new tightly inclosed single stage trigger mechanisms because if they freeze up it is almost impossible for the layman to dismount them and wipe them dry. The Winchester Model 70 trigger is much superior for a hunting rifle because all its mechanism is readily available for wiping clean and newly lubricating with one of these oils.

Townsend Whelen

Presently Precision SHOOTING is being mailed between the 15th and 17th of the month of issue date and by second class mail will not reach many subscribers until toward the end of the month.



Dear Phil:

Who says that little shoots aren't catching on and becoming of greater interest and importance to the game? It seems to me that 22 contestants at last Sunday's shoot at Plainfield was a pretty good attendance and I know that if the weather forecaster had not given us such adverse reports, there would have been another half dozen shooters attend. It was nice of the club members to plan and invite the shooters to their chicken barbecue which turned out to be delicious and it is all typical of the hospitality that has been shown to us by those Plainfield folk at every shoot I have attended. It is pleasant to shoot at that range with the long green expanse between bench and target and I think the suggestion that shoots be held on Saturday afternoon and Sunday morning instead of all day Sunday will bear fruit by increasing the attendance, as it is undoubtedly a hardship for the shooters to make the long drive back to their homes through the Sunday traffic if they get too late a start. I speak with considerable authority because I have to travel long distances to all of the shoots.

Speaking of travelling long distances, I am reminded of the jaunt that I took to Altoona several weeks ago. That is a nice range, too, and there were some 46 shooters who attended that varmint match where there was some mighty good shooting going on but the matches left me with a very bad taste in my mouth and I know there were others, too, who felt the same way because unless the Association has the guts to live up to its own rules, and stick to its rule book, I, for one, am not going to attend varmint matches or any others. At that match, there were rifles admitted as varmint rifles which undoubtedly came within the 13 pound classification, but otherwise were streamlined mechanical rest rifles. The shooter who seemed to have the most flagrant violation and who came in high in the matches frequently, shot a rifle in a manner that was recently described in this publication as an example of what we wanted to avoid, even in bench rest shooting. The rifle had been demonstrated as capable of making a very small group when it was fired by a person not even sitting at the bench or looking through the telescope. This was not the only rifle that was out of line at the varmint matches. There were others with steel and metal incorporated in the fore end and the under surface of the butt which like the first rifle mentioned, rode in mechanical devices that returned them to battery so accurately that looking through the scope was not an essential requirement to making a small group. My idea of a varmint rifle Phil, is one that you can haul out from the car or the closet corner and head for the nearest varmint and shoot it from any position with reasonable accuracy. Those kind of rifles should be in the varmint matches and those kind of shooters are the ones we want to attract to the game, and we won't do it if they have to cut a slot-

(Continued on Page Twelve)

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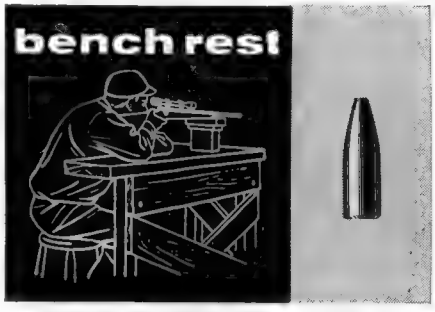

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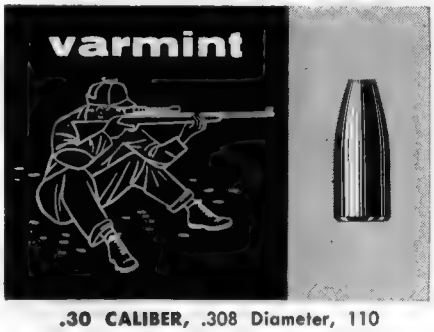

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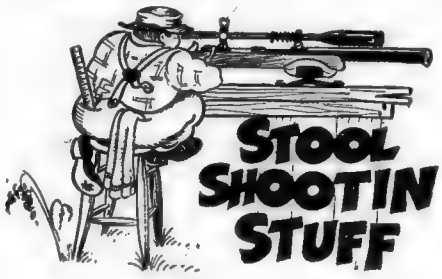

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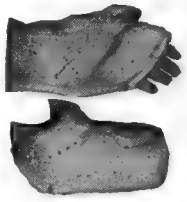

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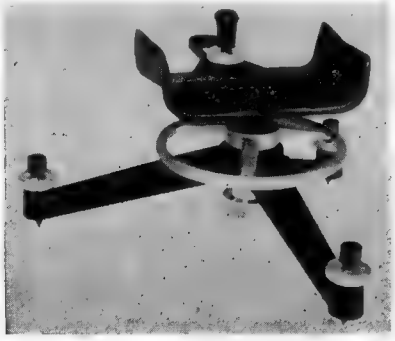

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Stool Shootin Stuff

(Continued from Page Eleven)

ted groove down the middle of their fore end to ride on a stud, on a minimum friction hard surface rest in the front, and a rest in the rear that requires a table surface and is adjustable for windage and elevation with micrometer like exactness. I think I demonstrated to you Sunday that under the present rules, a device equipped rifle can easily shoot small groups without the shooter being closer than arm's length to the bench. Good eyesight is not necessary because the covers can be kept on the scope tube and a child can pull the trigger via a string and make such groups.

There were some pleasant sides of the Altoona match. Bob Stinehour and I were setting up camp with nearly a dozen others the night before when those very likable Virginians, George Morton and Joe Looper drove up near to us, and hollered out "Where is that Yankee money?" They said it in a spirit of jest and good fellowship, but I guess now they were rather serious about it because they both took home quite a lot of loot. There was no question about either of their guns being true varmint type, or the ability of either of them to shoot them because they came in first and fourth places. Joe started out early in the morning to show us what good shooting was like.

If I am not mistaken, the fellow who won the Class B prizes and aggregate was a chap who had never attended a match before, had never shot very much and I think only owned the rifle for a few weeks, after having bought it over the counter as most anyone might do.

Time certainly flies by, Phil, and before this print is very cold, we will all be in a dither about the Johnstown shoot, and the Nationals which follow it soon after. There are so many good fellows in the game that want to see it continue that I hope they can resolve their differences before it is too late. I am sincerely afraid that the accomplishments of the past can be nullified by mistakes which we are making now. Let's more of us get the spirit of "old" Andy Brower who loves so dearly to shoot and who has never lost the love for the game through most of his 70 odd years. He seems to get more fun out of a 10¢ side bet than last year's National Champion seemed to get for winning the trophy. He is never envious or jealous of the fellow who wins and is justly proud of the ability of his Catskill Mountaineers to hold their own in any of the shoots. His newest convert who had never entered a bench rest registered match before, went home with the aggregate under his belt from the Plainfield shoot.

Newcomers seem to do pretty well in this game as I have just received some very nice targets from Doctor Jim Clark who went to the Wichita shoot and did all right. We need those good fellows and good shooters, and we need to get together for the good of the game.

To the fellows who advertise their products in this publication, we owe a great deal. We should use them and promote them because they stick with us. They and other folks, too, often go further by donating merchandise prizes and trophies which are too often taken without due appreciation by the winners. At most of the bigger shoots, there is a mighty nice list of merchandise prizes. They are typical examples of the good will and good fellowship that is such an important part of the bench rest game.

Cordially yours,

Ernest Stinehour

BENCH REST MATCH RESULTS

AUGUSTA, OHIO

At the Reed's Run Rifle Range June shoot at Augusta, Ohio, the top shooters in the field of 33 from Ohio, Mich. and Pa. were Paul Gottschall from Salem, Ohio and the Eldred, Pa. couple, Chester and Doris Benjamin.

Gottschall was 3rd in the 200 yd. agg. with .686 m.o.a., won the 100 yd. agg. with .381 and the NMC agg. with .534 m.o.a. Chester Benjamin won the 200 yd. agg. with .594 m.o.a. and Doris was 2nd with .626, while in the NMC agg. Chet was 2nd with .556 m.o.a. and Doris 3rd with .589.

Harold Zeiser, Nescopeck, Pa. was 2nd in the 100 yd. agg. with .387 and Donald Combs, Salem, Ohio was 3rd with .420.

Gottschall shot a .222 in Johnson P. T. barrel on hi reinforced action. The Benjamins shot .219 Don rifles built by Taylor & Robbins.

EASTON, OHIO

At the Chippewa Rifle Club June 29th shoot at their Easton, Ohio, range, 22 shot heavy rifle and 5 shot Varmint rifle (one shot both classes). The program was an aggregate of 5-shot matches at 100 and 200 yard ranges.

W. M. Brown, who manages the Reed's Run matches at Augusta, won the 100 yd. agg. with .3158 and the grand agg. with .4260 m.o.a. Paul Gottschall, who didn't place in either sub-aggregate, was 2nd in the grand with .4380. L. S.

Glenn of Akron, Ohio, won the 200 yd. agg. with .4422 m.o.a. and was 3rd in the grand with .4385. Geo. McMullen was 2nd at 100 yds. with .3288 and W. C. Davidson 3rd with .3436. H. R. La Chat was 2nd at 200 with .5006 m.o.a. and Lawrence Rucker 3rd with .5122.

Rucker won the Varmint rifle 100 yd. agg. with .4222, the 200 yd. with .5788 and the grand with .5005 m.o.a. Raymond Novak, Detroit, Mich., was 2nd at 100 yds. with .4924 and his .240" group at 100 yds. set a range record for Varmint rifle. Paul Lagrou of Detroit was 2nd at 200 yds. with .5892 and the grand with .6057 m.o.a. Lagrou shot a 9 lb. Sako factory rifle with Sierra 53 Gr. H. P. bullets.

JOE STEARNS WINS PENNSYLVANIA CHAMPIONSHIP

Joe Stearns, 1112 Beverly Road, Jenkintown, Pa., was awarded The Pennsylvania Pistol & Rifle Association Trophy representing the 1958 State Championship for the Open Class of Bench Rest Rifles based on his consistent shooting at the 200-yard range on June 22nd at the Blue Rock Club range in Milroy, Mifflin County, Pa.

This award was made to the Pennsylvania resident whose minute-of-angle aggregate for the five 10-shot National Course matches was lowest, and Joe, by placing first in two of these matches and fourth in another, was able to post a very good .947 m.o.a. aggregate considering the conditions under which the five matches were fired.

Joe was also a member of the winning 4-man team in the 200-yard State Competition, the other members of which were Howard W. Wolfe, Mifflinburg, Pa., with a m.o.a. aggregate of .963; Al Hoyer, Mifflintown, Pa. with 1.171, and Andy Fazio, Brooklyn, N. Y. with a 1.293, for an average m.o.a. of 1.0935.

The winning 2-man team in the same competition was won by Chester Benjamin of Eldred, Pa., with a m.o.a. aggregate of .953, and Irvin M. Mohnkern, State College, Pa., with a 1.168 for an average of 1.0605 m.o.a.

Three 5-shot matches and five 10-shot National Course matches were fired at the 100-yard range on Saturday, June 21st, and the same at 200 yards on the following day, with Robert Stinehour of Newburgh, N. Y. winning the trophy for the best Grand Aggregate for the 10-shot matches at both ranges with a .648 m.o.a. Bob also won the 200-yard N/C Aggregate with a .906 m.o.a., and placed fifth in the 100-yard aggregate with a very good .390.

Saturday was a cloudy, rainy, dark day with no air currents or mirage, and, with the exception of intermittent light to average rainfall which did not interfere too much with loading and shooting at the covered benches and loading pavilions, was a day made for bench rest shooting, as the scoring indicates.

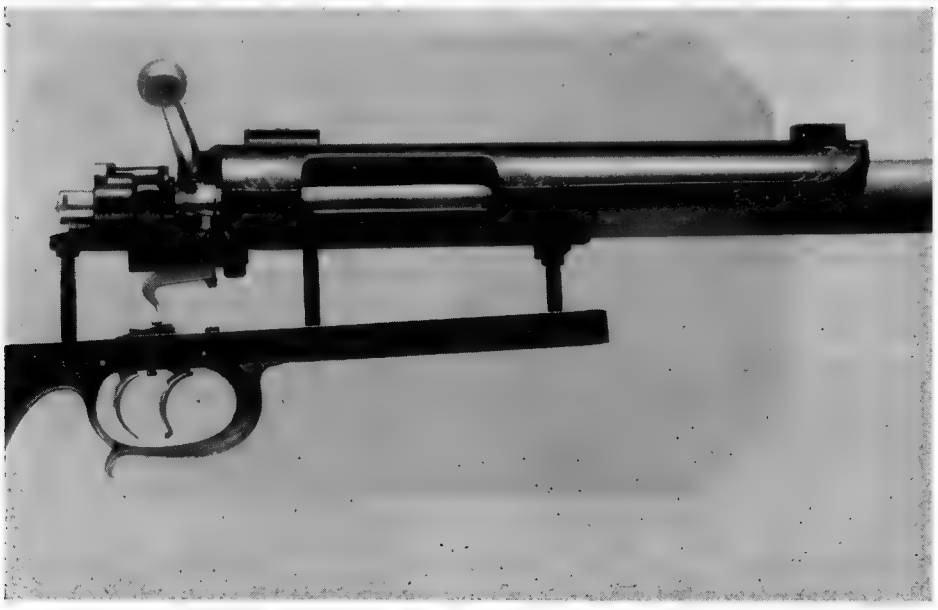
The 100-yard N/C aggregate was won by Harold Zeiser of Nescopeck, Pa., with a beautiful .321; W. M. Brown, Augusta, Ohio, was second with .375; J. S. Hutchinson, Belle Vernon, Pa., third with .377; O. A. Rinehart, Salem, Ohio, fourth .380; and Stinehour was fifth.

Second place in the 200-yard N/C Aggregate was won by Stearns; third place by Benjamin with his .953; fourth place by Wolfe with .963; and fifth by O. A. Rinehart, Salem, Ohio, with 1.023.

Second place in the Grand Aggregate for the N/C matches was won by Wolfe with .680; third by Stearns with .683; fourth by Rinehart with .702; fifth Benjamin .705; sixth Brown .745; seventh Clyde Yockey .753; eighth L. S. Rucker .766; ninth Orren W. Bellows .774; and tenth by Doris Benjamin with .781.

Sunday was a clear, hot, breezy day, which certainly played "hob" with some excellent aggregates which were made on Saturday, as follows: 38 shooters quali-

(Continued on Page Fourteen)



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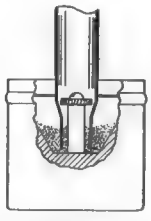

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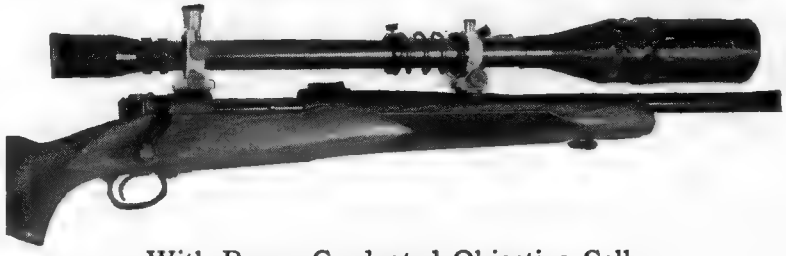

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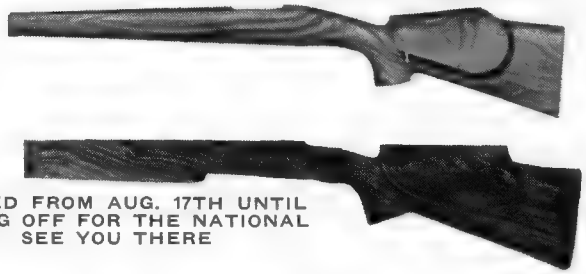

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Bench Rest Match Results

(Continued from Page Thirteen)

fied for 100-yard N/C aggregates with an average of .525 m.o.a., and only one disqualified. Then on Sunday 31 shooters qualified for the 200-yard N/C aggregate with an average of 1.220 m.o.a., almost two and one-half times as large as the previous day's average, and nine were disqualified; and 29 who qualified for the N/C Grand Aggregate averaged .849 m.o.a., which merely proves more conclusively that weather conditions are a big factor in this bench rest shooting game.

P. J. Aurand

ST. LOUIS, MISSOURI

Ten shot the NMC aggregate at the Bench Rest Club of St. Louis match in June on a dark, cold, wet and windy day. Ted Holmes, Mattoon, Ill. won the 100 yd. agg. with .433 and the NMC agg. with .618 m.o.a. William Schellert of St. Louis won the 200 yd. agg. with .745 m.o.a.

GREENUP, ILLINOIS

Eight shot the NMC agg. at Greenup, Ill., in difficult wind and mirage conditions. H. E. Owen, Casey, Ill. won the 200 yd. agg. with .597 m.o.a., was 3rd at 100 yds. with .586 and won the NMC agg. with .591 m.o.a. Ted Holmes was second in all aggregates with .626 m.o.a. for the NMC. Alfred Walter of St. Louis won the 100 yd. agg. with .464 and was 3rd in the NMC with .663 m.o.a.

KANSAS STATE CHAMPIONSHIPS

Twenty five competed in the Kansas State and Mid-Continent Regional Championships at Wichita on July 4-5 under excellent shooting conditions.

L. F. Cardin of Kansas City, Kans., is the 1958 Champ with a .377 m.o.a. NMC agg. He won the 100 yd. agg. with .318 and was 3rd at 200 yds. with a .4361 agg. Alfred Walter, St. Louis, Mo. won the 200 yd. agg. with .4205 m.o.a. and was 2nd in the NMC with .404 m.o.a. H. E. Powers, Okmulgee, Okla. was 2nd at 100 yds. with .3204 and 3rd in NMC with .4048. Ted Holmes, Mattoon, Ill. was 2nd at 200 yds. with .4219 and 4th in NMC with .4104 m.o.a. Sue Robinson of Houston, Texas was 5th in NMC with .4311 m.o.a.

Dr. J. W. Clark of Durango, Colo., shooting in his first bench rest competition, was 3rd in the 100 yd. agg. with .3766.

Seven shot Varmint rifles with John W. Mayer, Mission, Kans. winning the two range agg. with .596 m.o.a. David Shockley, Okmulgee, Okla. was 2nd with .663 and Bob Berry, Pawnee, Okla. 3rd with .683.

AL HOYER WINS EASTERN REGIONAL CHAMPIONSHIP

Al Hoyer, local gunsmith and an active member of the host Blue Rock Club, of R. D. #1, Mifflintown, Pa., won the Grant Dick trophy and the club keeper trophy, as awards to the Eastern Regional Champion of the N. B. R. S. A. in the Open Class, by some consistent shooting at 100 and 200 yards on July 5th and 6th, with a Grand Aggregate of .439 m.o.a. for the five N/C 10-shot matches at each range.

"Alec," as he is known to his fellow club members and shooter customers, did not win a match at either range, had one third place in a 100-yard match and one fourth place in a 200-yard match, but maintained a consistency that placed him first in the 200-yard N/C aggregate, fifth in the 100-yard aggregate, and the Championship in the grand.

Saturday was another of those close, cloudy, dark and still days made for bench rest shooting and the fifty-eight competitors, all of whom qualified for the N/C aggregate at 100-yards, averaged .523 m.o.a., a surprising figure for such a group, but Sunday being only partly cloudy and with some wind-drift caused the 56 of the 58 who qualified for aggregate to have their average increased to .758 m.o.a., and with a grand aggregate average for 51 who qualified, of .618 m.o.a.

Paul O. Gottschall, Salem, Ohio, won the 100-yard aggregate with a .326 m.o.a.; W. M. Brown, Augusta, Ohio, was second with .351; Howard W. Wolfe, Mifflinburg, Pa. third with .360; Chester Benjamin, Eldred, Pa., fourth with .362; and Hoyer fifth with .364.

The 200-yard aggregate was won by Hoyer with .515 m.o.a.; H. L. Culver, Silver Spring, Md., was second with .519; Benjamin was third with .522; William E. Cotter, Little Falls, N. Y. fourth with .547; and Joe Stearns, Jenkintown, Pa., fifth with .555.

Other winners of the TOP-10 awards were, in addition to Hoyer, Benjamin who placed second with a N/C Grand Aggregate of .442 m.o.a.; Brown third with .464; Culver fourth with .474; Gottschall fifth with .483; Wolfe sixth with .485; Cotter seventh with .492; Ir-

vin M. Mohnkern, State College, Pa., eighth with .514; Joe Kusky, Meadowlands, Pa., ninth with .515; and Edith Wenkenbach, Arlington, Va., one of three ladies who competed, tenth with .530. P. J. Aurand

TULSA, OKLAHOMA

Nine shot the NMC at a night match on the John Zink Range on June 21st. Horace Powers, Pawnee, Okla. won the NMC agg. with .426 m.o.a., L. F. Cardin, Kansas City, Kans. was 2nd with .453 and H. G. Baucher, Kansas City, 3rd with .580.

HANDBOOK OF CAST BULLETS

Under the above title the Lyman Gun Sight Corporation have just issued a most attractive, interesting and useful book of 208 pages, remarkably well gotten up and illustrated. It lists and describes all cast bullets for which Lyman still has the moulds, going way back to the first days of the old Ideal Company, nad gives a remarkably large number of loads for each bullet for the rifles for which each bullet is suitable. It is to be noted that whereas most of the cherries used to cast bullets intended to be cast and afterwise sized .003" large for high power rifles, now for each of these bullets Lyman can now furnish moulds to cast only .002" larger than nominal groove diameter to be sized to actual groove diameter or only .001" over groove d'ameter without deformity to be more suitable for modern barrels which now run very close to the nominal diameter.

The book also contains excellent instructvie articles on casting bullets by Charles Lyman, H. Guy Loverin, and Frank Jury, as well as a very complete history of cast bullets back to 1776 by Jac Weller. The various moulds, dies, lubricators, and other Lyman tools are described.

This book is really a "must" for all riflemen. The use of cast lead bullets should be much more universal than it is. Such loads are extremely useful for individual target practice, as well as for shooting small game and varmints where one does not wish to spoil meat or pelts. Gas check bullets of .30 caliber and larger, with powder charges which give velocities of 1400 f.p.s., and over are also entirely suitable for deer. I can remember that about 1894 a long discussion ran in the old American Field as to whether the .32-40 or the .45-90 was the best cartridge for deer. Neither side proved their point, but at least it was proved that the .32-40 was an entirely suitable deer load. The .30 caliber gas check loads with bullets of 170 grains or over are comparable to the old .32-40 black powder cartridge,—that is those with round or flat points.

The big advantage of cast bullets is the small cost of handloads employing them, and the very slight wear on the barrel. Long years of experience in hunting and target shooting has shown that to become really expert and dead sure with one rifle and to remain so, the rifleman should fire 10 shots bench rest (to prove grouping), 20 shots prone, 20 sitting, 20 kneeling, and 30 standing each week—a total of 100 rounds. The expense of such shooting with high velocity loads and jacketed bullets is almost prohibitive both in loading cost and barrel wear. With cast bullets it is almost insignificant.

The Handbook of Cast Bullets may be obtained direct from Lyman or from most any gun store for two dollars.—T. W.

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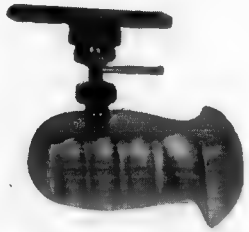

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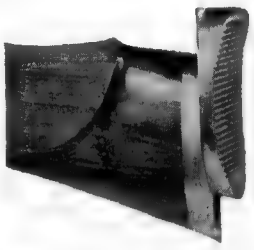

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The Tournament Circuit

(Continued from Page Four)

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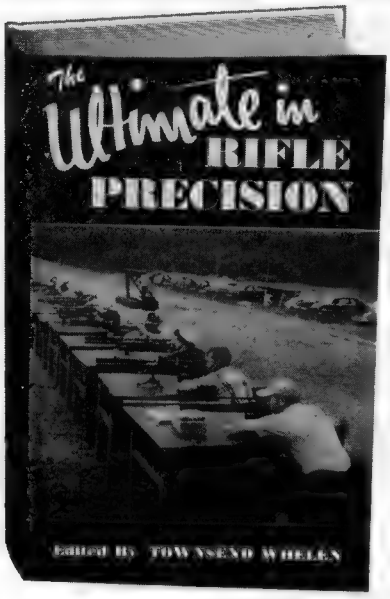

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THE INFORMATION BENCH

The Information Bench service is available to all Precision SHOOTING readers. With your questions, send a large, stamped, self addressed return envelope for a reply. Selected questions and answers, covering as wide a variety of interests as possible, will be published in these columns. Address your questions to the following people.

Bench rest, varmint and hunting rifles, accessories, handloading, components and shooting methods—**M. H. Walker, THE INFORMATION BENCH, RFD #1, Box 118, Mohawk, N. Y.**

NRA and Free target rifles and shooting—**Roy F. Dunlap, 2319 Ft. Lowell Rd., Tucson, Arizona.**

Sporting handguns and loading—**Kent Bellah, Saint Jo, Texas.**

British arms and shooting—**John C. J. Knott, 2226 North Euclid Ave., Tucson, Arizona.**

Questions: 1) In a custom varmint rifle, which offers the best potential accuracy, the .244 Remington or the .243 Winchester case? Assume that it will be made of a custom stock and barrel and reloads will be fired in it. 2) Do you expect any difference in the case reloading life between the two calibers under normal reloading conditions? 3) Are Remington 722 actions available commercially? 4) With the .25/06 caliber, what average accuracy is obtained? Does it, on the average, compare favorably with the .244 Remington? Arthur J. Kuestner, Calif.

Answer: Having been involved in the development of the .244 I personally prefer it over the .243. I do not believe the .243 cases last quite as long under handloading conditions as the .244 although the difference may be only academic as both will probably last more than 25 rounds each when reasonably reloaded. In a good smooth chamber the .243 tends to lengthen faster than the .244.

The 12" twist of the .244 gives superior accuracy with the 75 grain pointed bullets in all makes and this of course is the best all around varmint bullet. The .244 12" twist will not shoot the long pointed 100 grain bullets whereas the .243 will. The 90 grain pointed is the heaviest practical bullet in the .244. I have not been able to obtain as good accuracy with the 10" twist as with 12" in 6mm caliber. This is right, according to theory, as the faster twist accentuates bullet deficiencies. For bench rest work a case capacity of about 30 grains seems to be ideal in 6mm. For varmint work the .243 and .244 are very close to the maximum capacity for all around good results.

The Remington 722 action is not available commercially.

I do not believe there are bullets available for the .25 cal. which are as good accuracy-wise as the 6mm. I have three .25 cal. rifles varying in capacity from .250 Savage to a shortened 300 Magnum case. None of these have produced accuracy better than ¾ths of a minute while practically all of the 6mm I own are capable of ½ minute accuracy or better. M. H. Walker

Question: Out here, while we have no formal bench rest shooting, a bunch of us get together twice in awhile and shoot from a bench. One class of guns are unlimited as to caliber, weight or scope, and the other is limited to a legal deer rifle of not over ten pounds complete with not over a six power scope (legal deer rifle in Colo. is any rifle larger than .22 and having 1000 lbs. energy at 100 yards). This has been going on for several years and the competition is getting keen. We have been shooting one shot at a 50 yd. smallbore target. With the target rifle you must get an X nine out of ten times you fire to stay in Dimes, and with the deer rifle you must stay in the 10 ring to win anything—and it is

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2. National Small Bore Championship, Camp Perry, Ohio, 1957, John Moschkau.
3. 300 Meter Aggregate score, Du Bois, Pa., 1957, Don Robbins.
4. First and Second places, 300 meters, Du Bois, Pa., 1957, Clair Taylor and Don Robbins.
5. National Match Course, Du Bois, Pa., 1957, 1st, 3rd, 6th, 7th places.
6. National Match 10-shot 100 yd. aggregate, Augusta, O. Al Creighton, .3105".
7. National Bench Rest Championship, Johnstown, New York, 1955, Sam Clark, Jr.
8. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1954, Sam Clark, Jr. Score, or Group, .5276"
9. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1956, H. L. Culver (Present record) Group size .4016"
10. 1000 Yard, Famous Wimbledon match, any sight, 1955, Camp Perry, O. Frank Conway.
11. 1000 Yard, Famous Wimbledon match, any sight, 1956, Camp Perry, O. Frank Conway.*
12. Newest National Match Course winner, Wichita, Kans., Sept. 28, 1957, H. W. Barton, official new record, .3729" M. A. average.

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the same thing with the turkey shoots.

I have been shooting a .222 with fair success up until recently but it has had several thousand rounds through it and it needs a new barrel and I would like to have a new .222 made up for this shooting. Would like to have your recommendations as to action, barrel, and gunsmith to do this job for me. As for the other gun, I have been wondering what success the 6mm on a 250-3000 case has had accuracy-wise. This gun will not be used as a deer rifle. D. H. Gibson, Colorado

Answer: For either a custom .22 or a 6mm on the .250 case check with William Cotter, 159 Church St., Little Falls, N. Y., or Clyde Hart, RFD 2, Lafayette, N. Y. I am personally caquainted with the work that has been done by both of these gunsmiths and can recommend them without reservation.

The 250-3000 case will push the 90 grain 6mm bullet at about 3200. This is an ideal setup for a very accurate varmint or white tail rifle. The 75 grain Hollow Point target bullet by Sierra can be pushed to velocities of nearly 3600. M. H. Walker

Question: There has been some argument here regarding the use of Molykote for resizing cases. It is claimed it makes too slick a chamber, so that the head of the bolt is taking all the thrust pressure and that the bolt will therefore set back too much in the action. It is my idea that while the bolt will take more thrust, it just doesn't matter, all good rifles are made to take it anyway. It is also my claim that with the use of Moly, cases will last longer because they do not stretch so much. What is the general concept?

What started the argument is the fact that I am using Moly to make my bullets. They set up in the forming press a great deal easier than with any other lube I have ever tried—no drag on the jacket metal results in a more perfect bullet. John B. Sweany, Calif.

Answer: The use of Molykote on cases is not detrimental to an adequately strong action. It is true that lubricated cases load the action and bolt more than unlubricated ones. This difference is about 10 to 20%. The bolt force in the 30-06 with a lubricated case may run as high as 6500 lbs. which is very close to the calculated figure. This is with unfired new brass. What happens in handloads I do not know. It is quite likely though that the handloads come close to top theoretical forces due to the fact that the case is filling the chamber and no longer any of the longitudinal force to the chamber walls so it is quite unlikely that Molykote does any harm in handloaded cases. After trying several lubricants on bullet jackets C. P. Lanolin was chosen as the best all around lubricant for making bullets. The form and ejection in B&A dies is perfectly satisfactory with all calibers up to and including .30. It is possible that Molykote is better; I have not tried it. Perhaps you would be so kind as to keep me informed as you gather more information. M. H. Walker

Question: Would appreciate it if you could give me information on proper powder charges with the Sierra 60 grain bullet in the .243 Winchester. Rifle is a standard model 70 Winchester.

Am interested in maximum charges with probable best number of Dupont powder that will give best results with the above mentioned combination of caliber and bullet. Also, if possible please give estimated velocities and breech pressure. Wm. H. Janssen, Illinois.

Answer: Since the .243 is an outgrowth of the "Page Pooper" I called on Mr. Warren Page for information on 60 grain loads. There are no 60 grain loads listed for the .243 in any sources available either to Page or to me. Since the .243 has a 10" twist it is likely that the accuracy with the 60 grain bullet is not as good as with heavier bullets.

It is recommended that you start with 39 grains of 3031 or 42 grains of 4320. 42 grains of Lot C Ball powder gives the 70 grain Hornady 3512 feet/sec. 42 grains of 4320 sends the 70 grain Hornady at 3506 feet/sec. 39 grains of 3031 pushes the 75 grain Speer at 3440.

You should get 3600 to 3650 ft/sec. muzzle veloctity with maximum handloads of 3031 with 60 grain bullets. M. H. Walker.

Question: 1) Since it is easier for me to obtain the GI M2 bullet, ball type, made in 1953, I plan to use this in my brand new M70 Featherweight .30-06 cal. rifle, but changing the bullet with either Speer, Hornady, Sierra, Nosler, Norma, etc. bullets. Would this be OK? Could you give me the approximate velocities and pressure for each of the above 150 grain bullets?

2) What is the chamber dimensions of the above rifle?

3) Does the above GI ammo contain the ball powder? If so, is it true that continued use of this ammo would cause a bulge in the chamber or in the neck?

4) Does the Wilson, Forster, Grigsby or Smiley case trimmer shorten the case length, reduce the neck wall thick-

(Continued on Page Eighteen)

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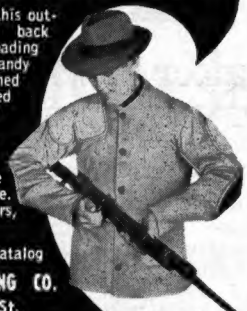

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The Information Bench

(Continued from Page Seventeen)

ness and burr the edge of the case?

5) Is there any truth to the claim that reduced loads (8 grs. less than maximum) of the 4350 powder would destroy the rifle?

6) In order to obtain maximum accuracy of my rifle, I plan to fire it (for zeroing) at 1 minute intervals. Is this sufficient time for the barrel to "cool off" between shots (3-5 shot group) or should I make it 2 minute intervals?

7) I shall exclusively or mainly use the 150 grain for deer hunting. What powder or powders usually give the best accuracy for this weight? Vincente G. Bengzon, Jr., Philippines.

Answer: It would be difficult to obtain the velocity and pressure data you request and since it would not have been obtained in your particular rifle it would be of academic interest only. Velocity of the M2 ball loads is usually very close to 2750 feet/sec. at the muzzle. Substitution of other 153 grain bullets in these loads should change the velocity very little. The pressures may increase with bullets having longer bearing sections or larger diameters than the M2. In general, flat base bullets give lower velocities than boat-tail bullets. If you substitute the boat-tail for a flat base the velocity is very likely to be 50-100 ft/sec. higher with the boat-tail. You can probably obtain the chamber dimensions from either the factory or the Small Arms and Ammunition Manufacturers Institute, 250 East 42nd Street, New York 17, N. Y.

I have experience only with the Forster case trimmer. It will reduce the neck wall or shorten the case. I use a Wilson inside and outside deburring tool. This is a hand tool and much faster than a bench type tool for deburring.

Light loads of 4350 have not harmed any of my rifles and no one has reported difficulties with light loads. There was a report that large grain powders would shatter at extremely low temperatures giving high pressures. This was supposed to have occurred in aircraft machine guns. There are no reports of such an occurrence in shoulder arms.

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For Sale— 219 Donaldson-Wasp, Hart Stainless Barrel, 722 Action, Bellows Sleeve, dies, 150 cases, 600 bullets, machine rest. Excellent condition. $160.00. Wesley Park, 1408 19th, Superior, Wis.

For Sale or Trade—Unertl two inch target. Perfect. $75.00 or take Westerner with dot in trade. Model 70 250/3000 perfect in excellent out $95.00. Want Sierra 25 caliber 100 grain any amount. Perfect 30/06 and 270 Winchester barrels $20.00 each. David Merrill, 13613 San Pablo Ave., San Pablo, California.

You will probably find that very light rifles shoot better if kept cool. 2-minute intervals between shots would be better than 1-minute.

3031 powder should be best with the 150 grain bullet in the 30-06. 50 grains of 3031 with the 150 grain bronze point is devastating on deer, in fact, almost too violent in destruction. Start with a lighter load and work up. Your rifle may not need 50 grains. M. H. Walker.

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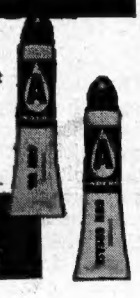

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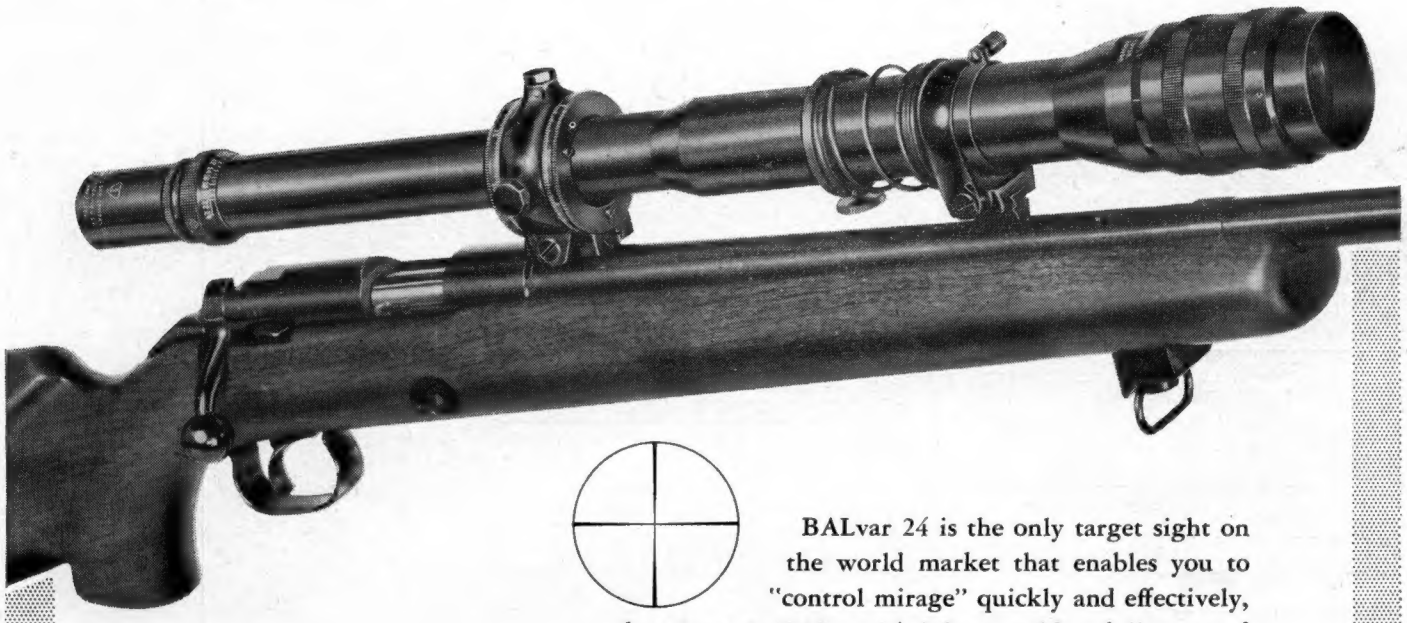

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BENCH REST MATCH RESULTS

SOUTHBORO, MASSACHUSETTS

Sixteen competitors shot five 5-shot and five 10-shot matches at 100 yds. at Southboro, Mass. June 29th. Al Glendening from Margaretville, N. Y. won the grand aggregate with a .4654″ average. Mrs. Mary Hollidge, Marstons Mills, Mass. was runner-up with .4823″ ave., and Andy Brower, Roxbury, N. Y. was 3rd with .4903″.

Mrs. Hollidge had a narrow margin over Glendening at the end of the 5-shot matches but lost out in the 10-shot matches. She did shoot small 5-shot group of .200″. Howard King, Richfield Spa, N. Y. shot small 10-shot group of .350″.

PLAINFIELD, NEW HAMPSHIRE

Twenty two competitors, five of them firing in their first bench rest competition, shot five 5-shot matches at each 100 and 200 yards at Plainfield, N. H., July 20th, a partly cloudy day of comfortable temperature but a bothersome wind.

Ralph Filter of Kelly Corner in Catskill section of New York, firing in his first bench rest match, was 2nd in the 100 yd. agg. with .397, 3rd at 200 yds. with .674 m.o.a. and won the two-range agg. with a decisive .5357 m.o.a. He only won one fired match and placed in two others but his shooting was most consistent throughout. He shot a .222 in Hart barrel on Remington action with Lyman 30X scope and his own 50 gr. bullets with 24.7 grs. Ball powder and Federal primers.

Frank Dawley, West Kingston, R. I., who won the May match on this range, was runner-up in the grand agg. with .5655 m.o.a. Dr. Alonzo Garcelon, Augusta, Maine and Amory Skerry, Barrington, R. I. had tied grand aggregates of .5670. Dr. Garcelon won the 200 yd. agg. with .600 m.o.a.

Oliver Delaney, East Greenwich, R. I. won the 100 yd. agg. with .361 and also fired smallest 100 yd. group of .200″. Howard King, Richfield Spa, N. Y. fired smallest 200 yd. group of .605″. Andy Brower, Roxbury, N. Y. won the special aggregate of first match at each 100 and 200 yards and the $10.00 cash prize posted by the sponsoring club.

A writer and photographer from a local newspaper were gathering material for a feature newspaper spread and a TV sportscast from the Burlington, Vt. TV station.

WINDSOR, ILLINOIS

Nine shot the NMC at Windsor, Ill., June 22nd. Ted Holmes of the host club won all the aggregates, .369 at 100 yds., .492 at 200, and a .431 NMC agg. Al Roberts of Louisville, Ky. was 2nd with .456 m.o.a. and William Schellert of S.t Louis, Mo. 3rd with .463.

RENTON, WASHINGTON

Fifteen shot in an unregistered match on the Renton Fish & Game Club range June 21-22, nine shooting the NMC with unrestricted rifle and fourteen shooting three matches at each 100 and 200 yds. with Varmint rifle.

L. E. Wilson won the grand agg. in both classes, averaging .5752 m.o.a. with Varmint rifle and .6415 for the NMC.

Dr. Rod Janson was 2nd with Varmint rifle (.600) and Roy Watson 3rd (.890). Ray Speer, Lewiston, Idaho was 2nd in the NMC with .672 and R. Norman 3rd with .687.